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Canadian trends for selected specialty cheeses

Canada

CANADIAN TRENDS FOR SELECTED SPECIALTY CHEESES

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PREFACE

Per capita cheese consumption could double by the end of the century! Are you ready for this bright future?

The production of Canadian specialty cheeses has more than doubled in the last ten years (Figures 1 and A) moving from 47,000 metric tonnes in 1976 to 103,000 metric tonnes in 1985. During the same period, the production of cheddar has increased by 38% (Figures 2 and B). Additionnally, cottage cheese production in 1985 reached 34,092 metric tonnes, a 39% increase over 1976 (Figures 3 and C). If one adds to this the production of Ricotta (a whey-based cheese) and that of skim milk cheeses (another 5,000 metric tonnes altogether) (Figures 4 and D), the total cheese production in Canada in 1985 was almost 250,000 metric tonnes (Figure 5).

A recent report* indicates that this total would be doubled by the end of the century to 500,000 metric tonnes, moving our per capita cheese consumption from approximately 10 kilograms at present to close to 20 kilograms, a bright future indeed for the cheese industry.

If the production of specialty cheeses were to continue at this frantic pace, Canadian production of specialty cheeses could conceivably surpass the 250,000 metric tonnes mark by the year 2000.

What are the causes of this phenomenal demand for specialty cheeses?

It all started with the massive influx of European immigrants into Canada after the Second World War. In the late 1950s, Italian immigrants in Canada were demanding Italian cheeses; Dutch immigrants were demanding their Edam and Gouda; the Greeks their Feta; the Swiss, Emmental and Gruyère; the Danes, Havarti; the Norwegians, Jarlsberg; the Germans, Munster, Limburger and Quark cheeses; the French, Camembert and Brie; and the British, Stilton.

Newly arrived importers with extensive contacts in Europe started catering to this new demand and soon Canadians were able to find the exciting feeling of discovering new taste experiences. These new cheese importers were extremely effective and hard working in setting up new distribution networks, catering as well to the restaurant and hotel trade.

Canadian businesses were prompt to seize the opportunities, starting with the Canadians of Italian origin who capitalized on the huge foodservice demand brought about by the pizzerias' request for Mozzarella and pizza cheeses. Currently over 50% of the specialty cheese production is made up of those two cheeses.

Another cause of this phenomenal demand for specialty cheeses is the entry of the United Kingdom in the Common Market in 1972 and the setback to our cheddar export trade. Suddenly losing a major cheese export market forced our industry to refocus the cheese production in Canada to better service the Canadian demand for variety cheeses. This was in many ways a traumatic experience for several smaller cheese plants who had to break abruptly with long-established tradition of cheddar making to move into new fields of endeavours with specialty cheeses.

Another important factor in this growth is the promotional efforts of the Great Canadian Cheese Festival of the National Dairy Council of Canada. It is still the largest food-promotion activity in Canada. The festival began in 1947 and from a week-long festival, it soon became a month-long festival, known in previous years as the October Cheese Festival. It is a nationwide, non-brand cheese-marketing plan in retail food stores across Canada. It is financed and operated by a committee composed of representatives of Canadian cheese manufacturers contributing voluntarily to this project, based on kilograms of cheese sold. The program uses extensive point of sale material and media support through the Dairy Bureau of Canada.

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* "The Cheese Market," a report from FIND/JVP, published in August 1985.

Canadian retail food stores from the Atlantic to the Pacific compete for 16 awards in five categories. The retail food store competition started in 1959. The chief executive officers of a number of major retail groups are invited every year to the Cheese Festival Banquet held in June. The Awards Banquet proved very successful and has become an important contributing factor when some of the major chains submit a large number of entries. The festival has been expanded into several hundred additional supermarkets and is extremely successful in terms of cheese sold and new specialty cheeses tasted by the public.

Another major contributing factor to the success of specialty cheeses is that cheeses have become the number two profit center in supermarket sales after meats. Supermarket and retail food stores will see their cheese sales increase up to 30% during the Great Canadian Cheeses Festival. This in itself is a very motivating factor. Consequently, cheeses are now located in up to six different locations in a retail food store: the meat counter, the deli counter, the dairy case, in-aisle displays, the grocery shelves or the cheese counter. Gourmet cheese shops are also catering to connoisseurs in major cities and major department stores across the country. Wine and cheese parties have also become extremely popular, especially in the fall and in the pre-Christmas season.

Excellent non-generic cheese advertising campaigns worth several million dollars every year have been orchestrated throughout Canada by the Dairy Bureau during the last decade, offering tantalizing Canadian specialty cheeses to Canadian consumers on TV and in magazines (currently the excellent "Cheese Please" Campaign). Couponing and tied-in advertising has been actively pursued by cheese manufacturers. Even the foodservice industry in every major city in Canada has been catered to three years in a row through the Canadian Wine, Flowers and Cheese promotions jointly funded by Agriculture Canada and the three commodity associations. Several provincial campaigns have been carefully prepared and aimed at specific regional target audiences. This includes participation at cheese shows, training supermarket cheese counter managers and taste panels.

Another important factor has been our cheese arrangements with 18 countries under the General Agreement on Trade and Tariffs (GATT) at the Tokyo Round in 1980. Those arrangements introduced, through negotiation, a price monitoring program of cheese imports to prevent unfair competition and unlimited subsidization by the treasury of some European countries. Price discipline has thus permitted the manufacturing of several new specialty cheeses in Canada, Emmental being a notable case. A Cheese Price Monitoring Committee working with the National Dairy Council of Canada ensures that the cheese arrangements are properly monitored.

In the past ten years, three major cheese categories have developed at a faster rate of growth to answer a surging consumer demand (Figure E). They are the Italian cheeses, the Swiss-type cheeses and the cream cheeses. The main characteristic of those three cheese categories in the past ten years is that they have all doubled their production. Furthermore, according to a recent report, sales among consumers show promising growth across all ages. The more affluent, especially the young affluent (yuppies) will buy more cheese. Sales are expected to rise among the elderly, especially women (in need of calcium) and among the very young.

The variety of cheeses on the market and their expansion at breakfast and as dessert foods is to be noted. Other sectors of strength will continue to be the institutional food operators, retail buyers and the fast-food chains, the frozen pizza manufacturers, the ethnic food such as Mexican foods as well as the cheese export market which is expected to grow.

Aggressive advertising and promotion by companies not presently advertising and promoting would speed up the rate of cheese growth or in reverse would slow it by not performing. Consequently, a greater emphasis on marketing and packaging is expected and is being urged.

Whether or not the Canadian per capita cheese consumption doubles in the next 13 years is a difficult question to address for the moment; the real issue raised here is the bright future which seems to be forecasted for the cheese industry in Canada from now until the end of the century and the degree of preparedness confronting the industry in light of such forecasted growth.

This document has been prepared with this development in mind. It tries to describe the historical development of 21 specialty cheeses (Figures E and F) in Canada and notes some of the emerging trends in North America and in

Canada in particular during the past ten years. The team that has assembled this information, which we hope will be useful in your investment decisions, has contacted more than 200 cheese firms, major cheese importers, distributors and traders as well as government officials in several countries to ensure the accuracy of this information.

We have noted the high degree of professionalism of those associated with the cheese industry development in Canada. This booklet is dedicated to them, as they have made this development possible and will ensure its continuing growth in the future. The two major elements of success in the development of the Canadian specialty cheese industry has been the quality of our cheese production recognized even by our foreign competitors and a product oriented to meeting consumer expectations. These two keys to success have served the cheese industry well in the past and should serve them well in the future.

FIGURE 1. CANADIAN SPECIALTY CHEESE PRODUCTION
(metric tonnes)

Total Specialty Cheese

1960	1961	1962	1963	1964	1965	1966	1967
5,612	5,668	6,222	7,085	7,856	9,547	12,076	12,782

1968	1969	1970	1971	1972	1973	1974	1975
15,002	17,895	22,485	25,974	26,030	27,189	41,830	40,880

1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
47,456	54,015	62,785	69,944	71,330	75,958	80,838	83,542	90,573	103,161

Mozzarella and Pizza Only

26,756	30,237	33,293	39,585	39,508	44,194	46,138	49,199	54,812	58,564

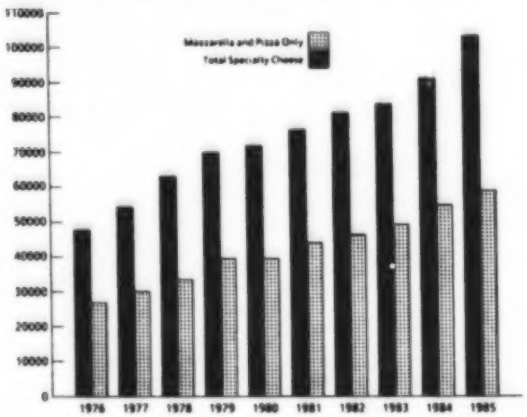


FIGURE A. CANADIAN SPECIALTY CHEESE PRODUCTION
(metric tonnes)

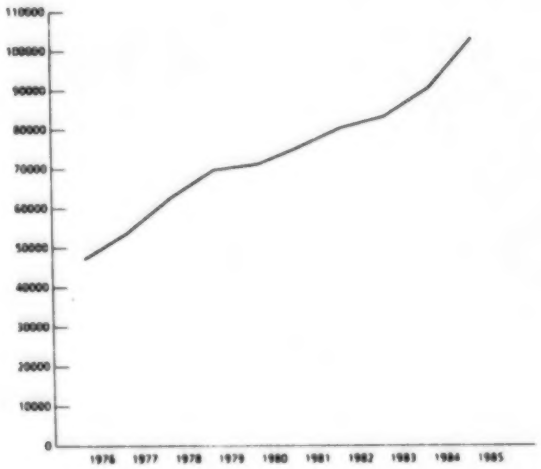


FIGURE 2. CANADIAN CHEDDAR CHEESE PRODUCTION
(metric tonnes)

1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
78,007	80,356	84,341	97,105	106,667	100,818	89,033	99,648	101,356	107,732

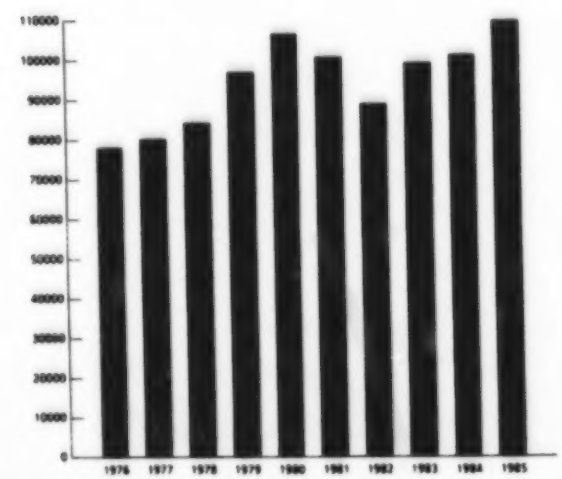
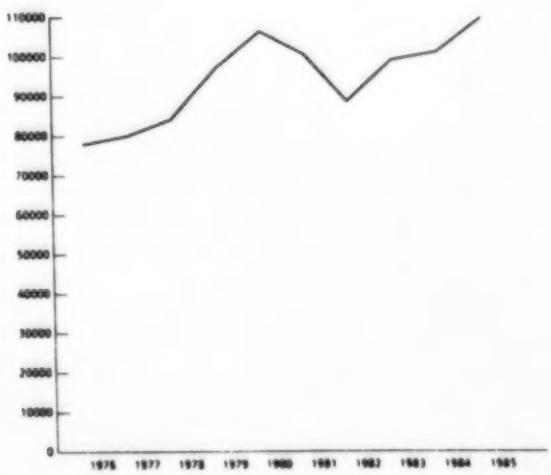


FIGURE B. CANADIAN CHEDDAR CHEESE PRODUCTION
(metric tonnes)



Source: Agriculture Canada

FIGURE 3. CANADIAN COTTAGE CHEESE PRODUCTION
(metric tonnes)

1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
24,364	25,891	26,443	26,974	30,112	31,285	29,936	30,378	30,696	34,092

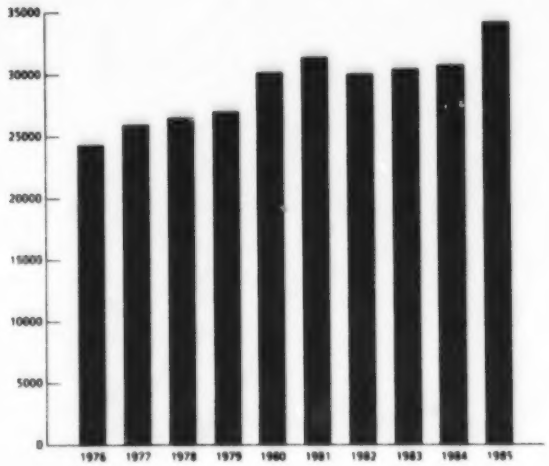


FIGURE C. CANADIAN COTTAGE CHEESE PRODUCTION
(metric tonnes)

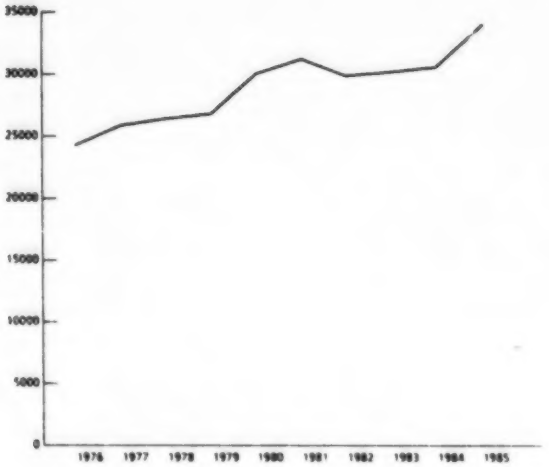


FIGURE 4. CANADIAN RICOTTA AND SKIM MILK CHEESE PRODUCTION (metric tonnes)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Ricotta	1,082	868	998	1,041	1,208	1,371	2,997	1,522	1,822	2,041
Skim Milk	1,104	1,094	788	633	1,185	2,097	1,470	2,291	2,515	2,927

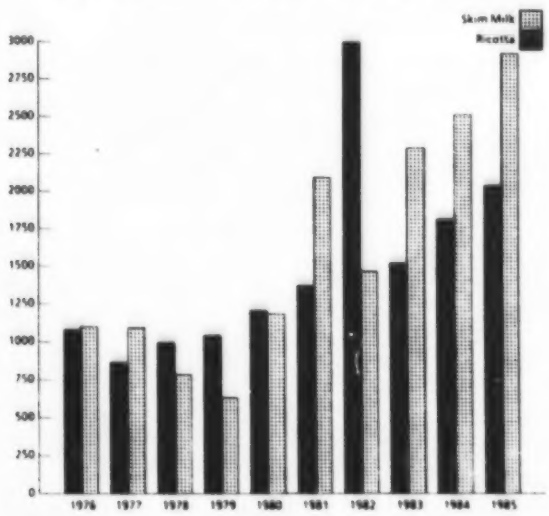
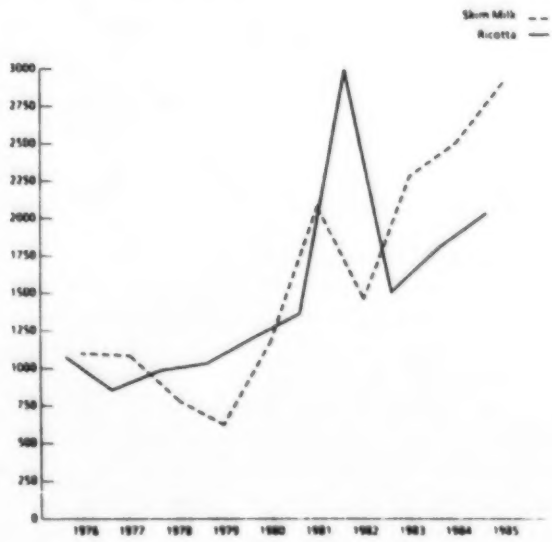


FIGURE D. CANADIAN RICOTTA AND SKIM MILK CHEESE PRODUCTION (metric tonnes)



Source: Agriculture Canada

FIGURE E TOTAL CANADIAN SUPPLY OF SELECTED SPECIALTY CHEESES 3,000 MT/YR AND OVER (INCLUDES IMPORTS)

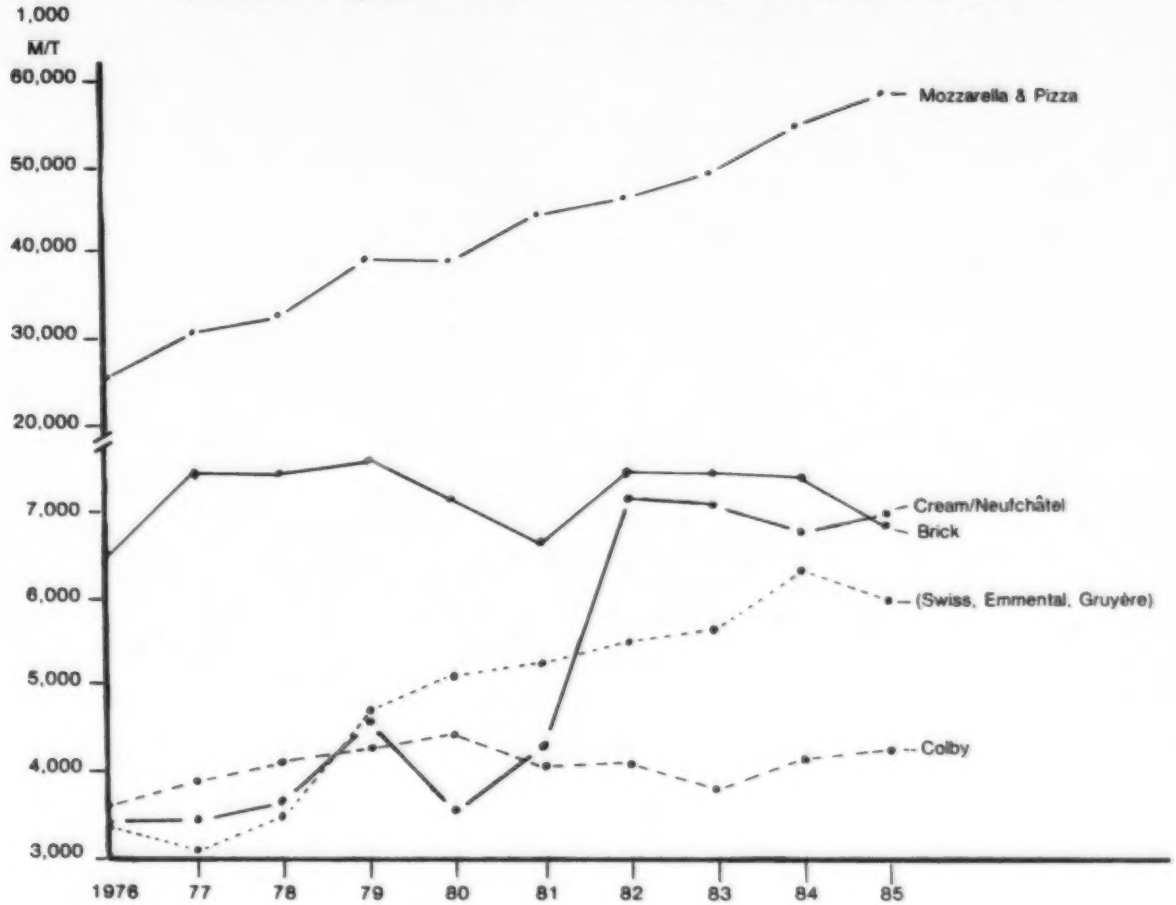
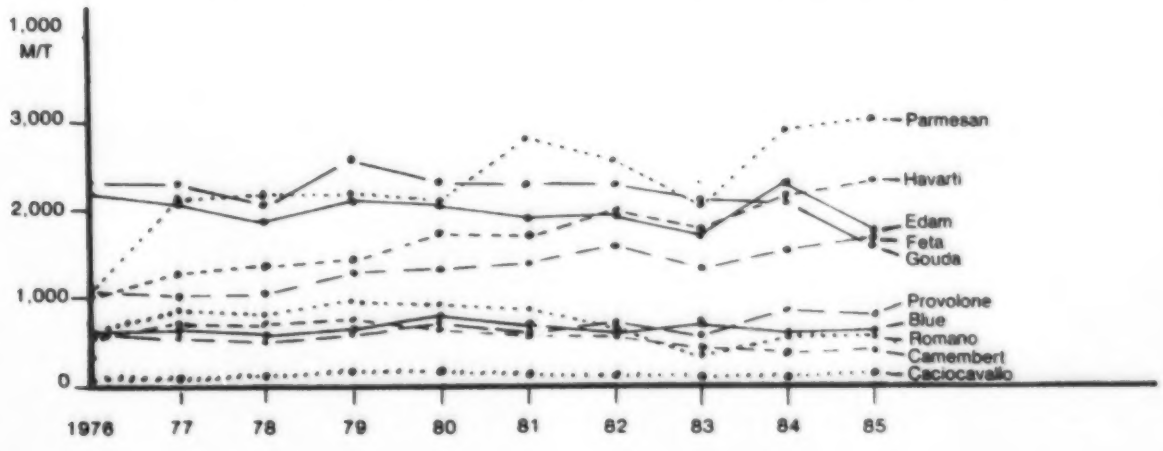


FIGURE F TOTAL CANADIAN SUPPLY OF SELECTED SPECIALTY CHEESES 3,000 MT/YR AND UNDER (INCLUDES IMPORTS)



Source: Agriculture Canada

INTRODUCTION

Historical notes on cheese development in Canada

Since the discovery of the cheesemaking-process, sometime long before the birth of Christ, cheese has played an important role in the diet and economy of the countries of the world. In Canada, it is no different.

Dairying and the art of cheese production came to Canada with the European settlers. The first importation of cattle was carried out by Baron de Lery, who made an unsuccessful attempt in 1518 to found a permanent colony, and abandoned his livestock on Sable Island. The first successful introduction of cattle was undoubtedly made by Samuel de Champlain, at Quebec, in either 1608 or 1610. In the 1660s, cattle from Normandy and Brittany in France, were imported; it is agreed that the "Canadienne" breed descended from this stock.

With the cattle, there was undoubtedly the production of cheese. Records of the early settlements make reference to cheese production. The early French colonists made *fromage raffiné* as an attempt to follow the soft-cheese process of the French. It is thought that in 1630 the Acadians produced cheese for the returning French fleet. However, the earliest record of cheese production is found in 1764 when from Nova Scotia six tonnes of cheese with a value of £280 was exported. The United Empire Loyalists brought with them their art of cheesemaking, cheddar style. In the records of Kingston, Ontario, supplies of cheese are noted as being exported to the United States in 1801.

From this date to the next century, Canada's cheese industry developed at a frantic pace. The era would see the establishment of large-scale on-farm cheese facilities; the development by the Trappist Fathers of Oka, Canada's own and only remaining specialty cheese; and increasing exports. The most significant development was the establishment of the cheese factory. The first factory is credited to have been the "Pioneer" which opened in the spring of 1864 and which was established by Harvey Farrington, an American, who brought the technology from the United States.

Crediting the "Pioneer" as the first is not significant, as a number of factories opened within the year. The number of factories increased so rapidly that by 1867 there were 200 factories in Ontario alone. By the end of the century, they were in every province.

It was the factory system that allowed Canada to reach its peak export year in 1903-04. It was in that year that Canadian production reached an estimated 250,000,000 pounds (113,399,000 kilograms) of which 233,980,716 pounds (106,132,957 kilograms) was exported. It was also the factory system that may have limited the introduction of specialty cheese. Cheddar, with its origins from the English village of Cheddar in the County of Somerset, was "the one variety particularly adapted for the factory system" and therefore, the choice of the new cheesemakers. With the exception of Oka, specialty cheese production was somewhat delayed until after the First World War for some varieties and until after the Second World War for the majority.

Before entering into the background of the different specialty cheeses, there are a few events that may be of interest to those in the dairy industry.

1864 – First cheese factory

1867 – Formation of the Canadian Dairymen's Association at Ingersoll, Ontario
– First dairy convention

1881 – First classes in the instruction of cheese-making, St. Denis, Quebec

1890 – Appointment of the First Dominion Dairy Commissioner, Dr. James W. Robertson and Assistant Dairy Commissioner, Mr. J.C. Chapais

1892 – First dairy school, St. Hyacinthe, Quebec

1892-94 – The Mammoth cheese – the production of a 9.6-metric-tonne cheddar cheese as a mammoth advertising campaign for the Chicago World's Fair of 1893. When the mammoth cheese crashed

through the Exhibition floor in Chicago, it put the Canadian cheese industry in the forefront of everyone's mind around the entire world business of cheese.

1904 – Peak export year - 233,980,716 pounds (106,132,957 kilograms)
– Adoption of "Cow Testing" (forerunner to R.O.P. program)

1921 – National Dairy Council of Canada formed

1923 – Compulsory inspection of cheese for export

1930 – First subsidies on butter and cheese

1934 – Canadian Federation of Dairy Farmers formed in Ottawa, leading to the Dairy Farmers of Canada in 1942

1940 – War Measures Act with Commission to regulate prices and trade

1944 – Offer to purchase program introduced to prevent agricultural prices from falling to encourage exports in order to eliminate surpluses and restrict importation

1958 – Agricultural stabilization legislation

1963 – Canadian conference on the dairy industry, which led to the legislation process creating the Canadian Dairy Commission (CDC) in 1966

1975 – Industrial milk policy with its related global cheese quota of 50 million pounds reduced to 45 million pounds in 1978 (see list of major cheese imports in Figure 6)

1980 – Canadian cheese arrangements with 18 countries, including a price discipline system restricting unfair competition and favoring Canadian cheese production

1986 – Cheese production in Canada reaching 250,000 tonnes (see list of specialty cheeses produced in Canada in Figures 5 and 7)

FIGURE 5 CANADIAN CHEESE PRODUCTION (metric tonnes)

Source: Agriculture Canada

FIGURE 6 MAJOR CHEESE IMPORTS

Argentina
Parmesan
Sardo

Australia
Edam
Emmental
Parmesan

Austria
Edam
Emmental
Gouda
Gruyère
Processed cheeses
Trappist

Belgium
Bra

Bulgaria
Feta
Kaskaval

Denmark
Brie
Camembert
Cream
Danablu
Danbo
Elbo
Esrom
Feta
Fontal
Fontina
Fynbo
Grana
Havarti
Hingina
Munster
Mycella
Processed Cream
Samsoe
Svenbo
Tybo

Finland
Edam
Emmental
Lappi
Processed cheeses
Swiss
Tilsit
Turonmaa

France
Banon
Babybel
Blue
Bonbel
Boursault
Brie
Camembert
Comté
Emmental
Goat's milk
Gournay
Gruyère
Munster
Neufchâtel
Pont-l'Évêque
Port-du-Salut
Processed Cream
Processed Spread
Processed - Other
Raclette
Roquefort
Saint-Nectaire
Saint-Paulin
Tomme
Double-Crème
Triple-Crème
Vacherin

Germany
Blue
Brie
Butter
Camembert
Edam
Emmental
Farmers
Feta
Gouda
Gruyère
Limburger
Mozzarella
Munster
Processed cheeses
Quark
Tilssit

Greece
Feta
Kasseri
Kefalotyri
Mitzithra

Holland
Edam
Friesan Clove
Gouda
Leiden
Parmesan
Processed Gouda
Tilsit

Hungary
Edam
Emmental

Italy
Asiago
Caciocavallo
Crotonese
Feta
Gorgonzola
Grana
Kefalotyri
Mascarpone
Montasio
Mozzarella
Parmesan
Pecorino Romano
Provolone
Ricotta
Romano
Sardo

New Zealand
Cheddar
Edam
Gouda
Parmesan

Norway
Gjetost
Jarlsberg
Norvegia

Portugal
Casteloes
Estrella
Serra
St-Jorge

Romania
Feta
Vize

Sweden
Ambrosia
Fontina
Grevé
Svecia

Switzerland
Appenzell
Emmental
Gruyère
Processed Gruyère
Raclette
Sbrinz
Sap Sago
Tête de moine
Vacherin

United Kingdom
Caerphilly
Cheshire
Gloucester
Lancashire
Leicester
Stilton
Wensleydale

United States
Brick
Cream
Edam
Feta
Gouda
Neufchâtel
Parmesan
Romano

Yugoslavia
Feta

Source: Agriculture Canada

FIGURE 7 SPECIALTY CHEESES PRODUCED IN CANADA

Adam (R)
Alpina
Anfleur (R)
Anfrom (R)
Asiago/Basilica

Bakers
Le Baron (R)
Belle Crème (R)
Black Forest (R)
Blue
Bonne Mère (R)
Bocconcini
Bra (new) (old)
Brick
Brie
Burrini (Buttiri) (Burrino)
Butter

Caciocavallo
Caciotta
Camembert
Camosun
Campagnard (R)
Capucin (R)
Caraway (S)
Casata
Champfleury (R)
Colby
Cream (plain and flavored)

Dolce

Edam
Elbo
Esrom
Emmental
Ermite (R)

Farmer's
Feta
Fontal
Fontina
Friulano
Furlano

Goat's Milk
Gouda
Gournay
Graviera
Gruyère – Mont Saint-Benoit

Havarti
Hermit (R)

Jack

Kajmak
Kasseri
Kefalotyri

Labneh
Lemoine (R)
Limburger

Montasio
Monterey
Mozzarella
Mozzarella Part Skim
Munster (Canadian)
Myzithra

Neufchâtel

Oka

Parmesan
Part Skim
Pizza Cheese
Port-du-Salut
Provolone

Quark

Raclette
Ricotta
Romano

St-André (Canadian) (R)
St-Jorge
St-Michel (R)
St-Paulin
Scamorza
Serra
Skim Milk
Spiced
Stella Alpina
Suries (Surris)
Swiss

Tenero
Tilsit
Tomme (des Laurentides) (R)
Trappist (R)
Trecce
Tuma

Vanquinha

(R) = registered trademark name
(S) = spices

Source: Agriculture Canada

BLUE

Background

Blue cheese refers to the many types of cheeses veined with a bluish-green mold. The most famous of the type is Roquefort (French), the only ewe's milk cheese to gain world renown. Roquefort's origin comes from the village of Roquefort-sur-Soulzon, which stands on the remains of the mountain Combalou. The legend of Roquefort says that a shepherd left some fresh curd in the old mountain's caves. On returning some time later, he discovered that the cheese had turned moldy but was very tasty. Soon the area's farmers started to cure all their cheese in the mountain's caves.

Production of Blue cheese has spread throughout the world. In the late 19th and early 20th centuries, the Danes were inspired to produce a Blue cheese made from cow's milk, which was sold as a Danish Roquefort cheese. As the product came of age and became a pronounced success, it was renamed Danablu (Danish Blue cheese).

In 1943, Les Bénédictins de l'Abbaye de Saint-Benoit-du-Lac (founded in Canada in 1912) commenced production of Blue cheese under the name Ermite (Hermit in English).

Quebec's Abbey Saint-Benoit-du-Lac, which is surrounded by magnificent sugar maples, is the home of St. Benedictine monks. This order is known for its superior cheese, having handed down its skills from brother to brother through the centuries.

Because the Benedictines are a monastic order who must earn their living by work, they have a long tradition of craftsmanship. The Abbey was founded about 74 years ago in Quebec when France's stringent anticlerical laws forced the monks into exile. Since there is a strong inclination toward cultivating the land in Canada, the monks of Saint-Benoit first raised a registered herd of milk cows which, in return, led to cheesemaking.

Some of the monks have been working at cheese making for almost all their adult lives and seem to know intuitively how to handle the cheese so that it develops in the right way.

The Abbey is located in the Eastern Township, on the enchanting shores of Lake Memphremagog, approximately 150 kilometers southeast of Montreal. The Abbey also produces a top-notch cider and a very tasty apple sauce from its orchard of apple trees and maple syrup from its forest of maple trees.

Father Bolduc, who is in charge of the cheese factory, stresses the fact that the monastery is primarily the dwelling place of a group of men dedicated to a religious life centered in searching for God through the practice of Christian perfection. At present, there are 65 monks at Saint-Benoit-du-Lac and each year brings a few young men aspiring to join them and continue in their ways.

The Canadian Blue Ermite, unlike its famous cousin Roquefort, is made from cow's milk. The Canadian Blue Ermite compares very favorably with the best of this type. From 1943 to 1958, the monks, who were producing only Blue cheese in Canada, were forced into diversification of other specialty cheese by increasing competition from imports. At present, the Abbey produces only very limited quantities of Blue cheese. However, it remains the sole Canadian producer of Blue cheese.

The Blue cheese types have been identified as cheese types with a growing market (U.S. capita consumption has doubled). In Canada, the market seems very stable (Figures 8, 9 and 10).

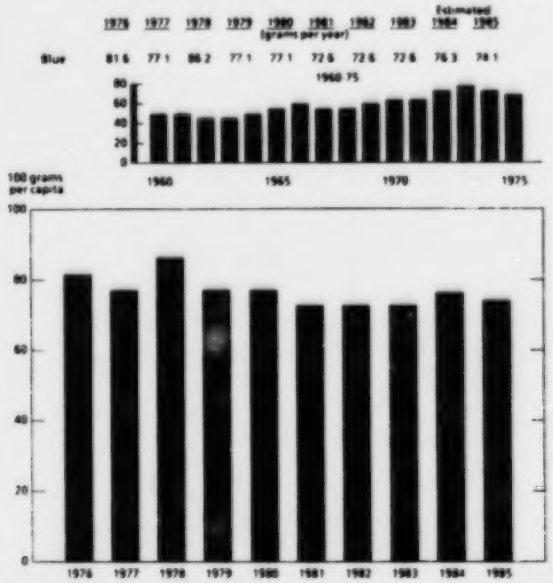
Utilization

Quebecers like to eat their Blue cheese on apple pie with a dash of maple syrup. Others like to eat it with ice-cold ham. Blue cheese is also eaten as such with bread, as a sandwich or as a complement to fruit and nuts. It is used with sour cream or yogurt and mayonnaise to produce an excellent salad dressing, which adds aroma and vigor to any salad. Its distinctive flavor makes it ideal as add-in for sauces – but don't overdo it. Blue cheese dip for vegetables has also become very popular (Figure 11).

References

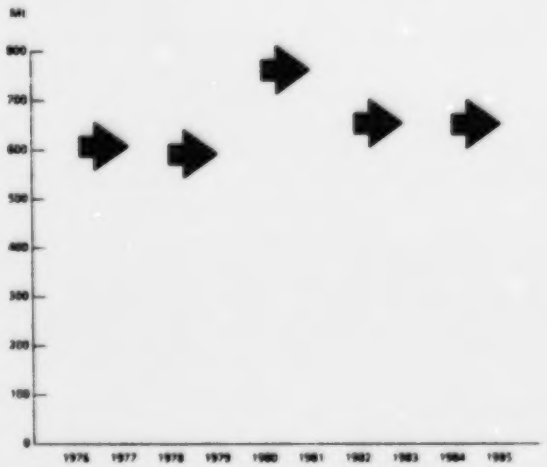
Father Jacques Bolduc, O.S.B., Les Bénédictins de l'Abbaye de Saint-Benoit-du-Lac; Ole Andersen, Plumrose Inc., Scarborough, Ontario; and R.G. (Dick) Huggett, Dairyland Foods.

FIGURE 8. U.S PER CAPITA CONSUMPTION OF BLUE CHEESE, 1976-85 (INCLUDES GORGONZOLA)



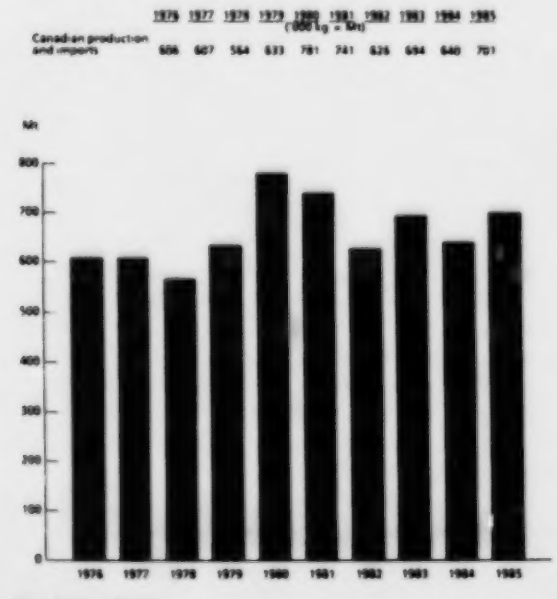
Source: USDA, Dairy Outlook and Situation, March 1984

FIGURE 10. CANADIAN SUPPLY OF BLUE (INCLUDES IMPORTS)



Source: Agriculture Canada

FIGURE 9. CANADIAN SUPPLY OF BLUE (INCLUDES IMPORTS)



Source: Agriculture Canada

FIGURE 11 NUTRIENT CONTENT (PER 100 GRAMS)

	Blue	Roquefort (Blue)
Energy		
Kilocalories (kcal)	353	369
Kilojoules (kJ)	1478	1544
Protein (g)	21	22
Fat (g)	29	31
Calcium (mg)	528	662

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

BRICK

Background

Brick is a cow's milk cheese of American origin, produced as early as 1875 in Wisconsin. Its name is thought to come from its size and shape which resemble a brick. However, its name could have arisen from the use of bricks to weight the cheese press. It is a sweet-curd, semisoft, cow's-milk cheese, with a mild but rather pungent and sweet flavor (distinctive), midway between Cheddar and Limburger but not so sharp as Cheddar and not so strong as Limburger. The body is softer than Cheddar but firmer than Limburger, is elastic and slices well without crumbling. Brick has an open texture with numerous small, irregular-shaped eyes (holes and a creamy-yellow color.

Brick has been produced in Canada for many years. The initial production of Brick in Canada primarily resulted from the requests of major customers and retailers. Consumers travelling in the U.S. had tasted Brick cheese, and the opportunity to successfully market it in Canada became evident. Brick cheese produced in Canada has also a version which is deposited in a brine solution for a period of time. This type of Brick is generally produced in 2.27 kg moulds. The flavor is slightly more salty than regular Brick. Its texture and mouth feel is slightly creamier.

Utilization

Brick is usually eaten in its natural state as part of a buffet, in a sandwich or in a salad. Brick combines well with Rosé wine. It is favored by consumers wishing a mild but distinctive cheese. Chefs like to use it because of its versatility in many dishes.

Some manufacturers offer Brick in a variety of flavored forms. Other manufacturers have developed a special Brick for use in pizza (Figure 12).

FIGURE 12 NUTRIENT CONTENT (PER 100 GRAMS)

	Brick
Energy	
Kilocalories (kcal)	371
Kilojoules (kJ)	1522
Protein (g)	23
Fat (g)	30
Calcium (mg)	674

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

Trend

A special Brick formula, which uses shredded Brick with Mozzarella or Cheddar, has been created to satisfy the pizza trade. The pizza trade is buying increasing volumes of Brick cheese, sometimes buying by the truckload.

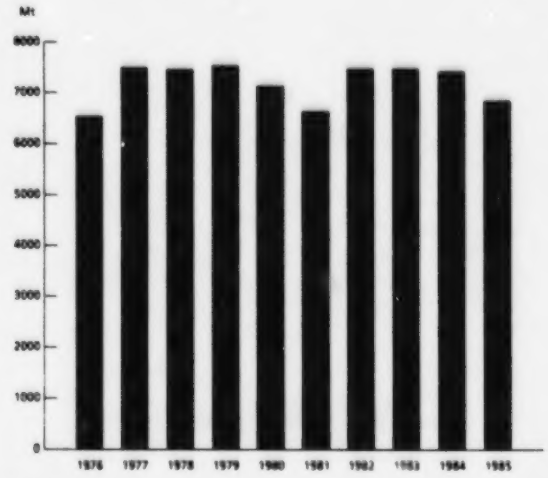
A large number of firms produce Brick throughout Canada. Brick is one of the six major cheese produced in Canada (Figures 13, 14 and E). As a North American type of cheese, Brick production and consumption have been very constant in the past few years (Figure 14). This trend is expected to continue. However, U.S. per capita consumption shows a 24-year decline, even though recent consumption has been steady (Figure 15).

References

Adolf Zundler, Agriculture Canada; Brian B. Kipping, Ault Dairies; D. Paul Corney, Alpha; Fernand Berthiaume, Agrinove; and Bryan R. Smith, Canada Packers Inc.

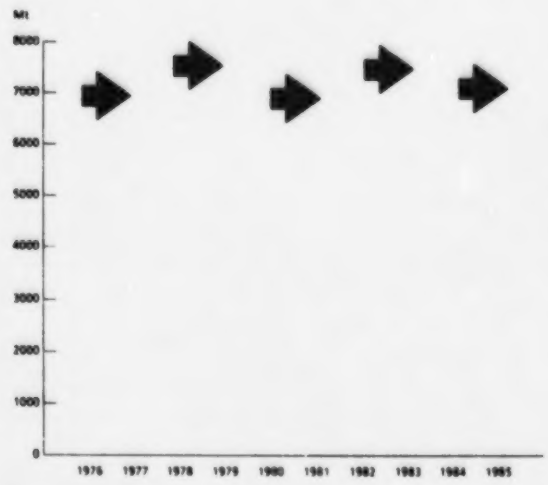
FIGURE 13. CANADIAN SUPPLY OF BRICK (CANADIAN PRODUCTION ONLY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					('000 kg = 1M)					
Canadian production	6,530	7,491	7,448	7,530	7,117	6,621	7,484	7,471	7,415	6,838



Source: Agriculture Canada

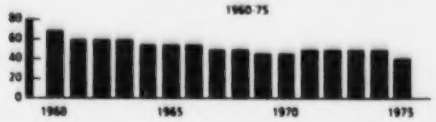
FIGURE 14. CANADIAN SUPPLY OF BRICK (CANADIAN PRODUCTION ONLY)

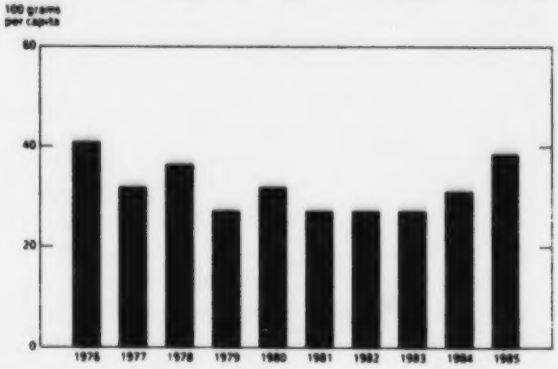


Source: Agriculture Canada

FIGURE 15. U.S PER CAPITA CONSUMPTION OF BRICK CHEESE, 1976-85

	1976	1977	1978	1979	1980	1981	1982	1983	1984	Estimated 1985
					(grams per year)					
Brick	40.8	31.8	36.3	27.2	31.8	27.2	27.2	27.2	31.1	38.6





Source: USDA, Dairy Outlook and Situation, March 1984

BRIE

Background

Brie cheese has been made for over 700 years. The first mention of Brie can be found in records from the county of Champagne dating back to 1217. Brie originated in the area around Meaux in France, whence the world-renowned Brie de Meaux got its name.

Brie is called the King of Cheeses and with good reason, since it was proclaimed *Roi des fromages* at the Vienna Congress in 1814. France had lost the war, but the world had won a cheese. The royal name was bestowed by none other than Talleyrand himself.

Characteristics

Brie falls into the category of mold-ripened soft cheeses and has a minimum fat content of 23% and maximum moisture of 54%. Brie is covered with a layer of surface molds, which develop during ripening. There are several methods of production, which influence the length of the ripening process. Brie can keep for 60 to 90 days depending on the method of manufacture and storage condition (Figure 16).

FIGURE 16 NUTRIENT CONTENT (PER 100 GRAMS)

	Brie
Energy	
Kilocalories (kcal)	334
Kilojoules (kJ)	1396
Protein (g)	21
Fat (g)	28
Calcium (mg)	184

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

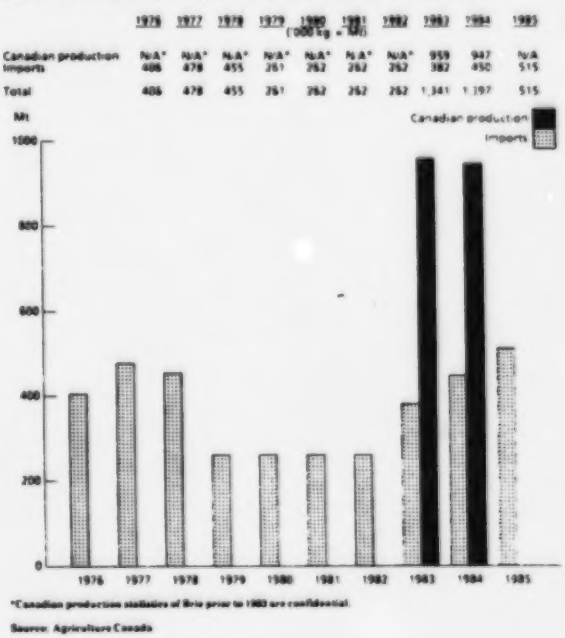
Since 1976, Brie has been expertly manufactured in Canada by a few cheese factories using European technology. The main manufacturers are ANCO, Agropur and Cayer in Quebec, and Neapolis Dairy in Alberta.

Trend

Brie is unquestionably the most popular soft surface-ripened cheese in Canada. The gastronomic awakening of Canadians coincides with the growing demand for this product. The cheese is eaten mainly with wine at the end of a meal or with crackers or crisp bread as a snack.

Canadian production of Brie has jumped by leaps and bounds since 1983. The King of Cheeses is making its presence felt and is enjoying a rapidly increasing popularity (Figure 17).

FIGURE 17. CANADIAN SUPPLY OF BRIE (INCLUDES IMPORTS)



*Canadian production statistics of Brie prior to 1983 are confidential.

Source: Agriculture Canada

References

Guy Meloche and Philippe Biron, Aliments Culinar; and Jean Loevenbruck, Pascobel.

CACIOCAVALLO

Background

Caciocavallo (*cavallo = horseback*) cheese derives its name from the fact that, once made, the cheeses were tied, two by two, together with a string and the string strung across the roof beams of the ancient houses in southern Italy, as one might straddle a horse. There, the smoke from the fireplace contributed toward drying the cheese and preventing moldiness.

The first description of Caciocavallo manufacturing practices was given by Ottolini in 1781. However, this cheese was made by the ancient Romans, who shaped it into a horse head (another possibility for its name). The cheese, as it is made today, has a slightly piquant flavor, a yellowish, sometimes brownish color and a fibrous texture, typical of the pasta filata cheeses. It is very good tasting in many uses.

At the turn of the century, an already large Italian community in North America was demanding cheeses similar to those used in Italy. To satisfy this demand, many cheesemakers in western New York State began the manufacture of Caciocavallo and pasta filata cheese and, from there, the frontier was crossed into Canada.

In the late 1940s, a small company called Cosenza Cremery and then Lino Saputo, started the production of Caciocavallo and other pasta filata cheeses in Montreal. Later, in Ontario, Silani Cheese and then Grande Cheese followed suit.

The increasing demand for those types of cheeses in Canada brought many cheese makers from the U.S. into Canada, especially in Ontario. By the early 1960s, the manufacture of Caciocavallo was well established in Canada.

Utilization

Although relatively expensive, Caciocavallo has a faithful court of consumers attracted by its taste. The flavor is slightly piquant, becoming sharper with aging, and pleasant. Caciocavallo is also gaining widespread acceptance among non-ethnic customers. Bulgarian and Yugoslavian immigrants know the cheese in their homeland as Kaskaval.

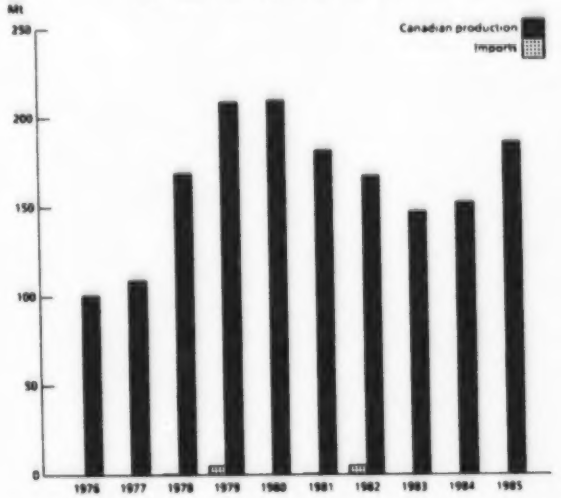
Caciocavallo is mostly a table cheese (but is also used as a snack, a dessert or as a party cheese. It has a very appealing appearance, melts easily and can be sliced.

Trend

Caciocavallo, which is shaped like a pear, has a strong demand on the Canadian market and the export market (in the U.S.), but it is so difficult to make that this in itself restricts the production, as it is handmade (Figures 18 and 19).

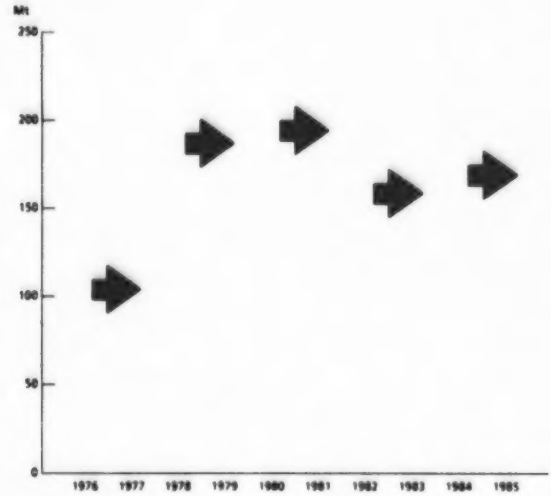
FIGURE 18. CANADIAN SUPPLY OF CACIOCAVALLO (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					('000 kg = Mt)					
Canadian production	101	109	169	209	210	182	168	148	153	187
Imports	–	–	1	5	–	1	5	–	–	–
Total	101	109	170	214	210	183	173	148	153	187



Source: Agriculture Canada

FIGURE 18. CANADIAN SUPPLY OF CACIOCAVALLO (INCLUDES IMPORTS)



Source: Agriculture Canada

References

Dr. Ottavio Salvadori del Prato, National Cheese Company Ltd.; Joseph Sutera and Camillo Lisio, Saputo Cheese Ltd.

CAMEMBERT

Background

Known throughout the world, Camembert takes its name from a little village in Normandy, France, where it has been made for centuries and is enjoyed with other regional cheese such as Livarot and Pont-L'Evêque. It is said that Marie Harel, a humble farmer's wife, was given the title of "Mother of Camembert" because she probably encouraged the consumption of Camembert outside its birthplace. She was the first cheesemaker to establish a regular mold flora and, in this respect, developed the modern version of Camembert in 1791. A change in the packaging of Camembert led to it becoming a worldwide export. Originally, Camembert was packed in straw for shipping and could reach Paris at best. In the 1890s, a patented, round wood veneer box was developed by a Mr. Ridel. This box helped preserve the cheese, allowing it to be shipped further afield to ports such as Marseilles, from which it was exported overseas to New York, Buenos Aires and even Saigon.

The exportation of Camembert eventually led to the production of Camembert beyond the region of Normandy and beyond France; it is now produced in many countries. Camembert is one of the most delicate cheeses to make. The curing of Camembert is the most difficult of the arts involved in its manufacture.

Camembert has been pioneered in Canada by Madame Clement in Beloeil, Quebec, since 1912 on a very small scale. During the Second World War, with increased distribution, Madame Clement's production increased and Froche purchased the factory in 1975 from her son. Froche is still using Madame Clement's label, even though the factory has been sold recently to Mr. Bonnet, who is now producing a Camembert-type cheese in St-Damas.

In Canada, large industrial production of Camembert dates back to 1977 by Fromagerie de Beaujeu, St-Polycarpe, Quebec, now owned by Agropur, and to the inauguration a few months later of the Fromagerie de Corneville, owned by the Produits Alimentaires ANCO Ltée. It is now produced by many Canadian companies.

Utilization

Camembert is usually eaten in its natural state, as are all similar types of cheeses. It is suggested that well-ripened Camembert be eaten with a red Beaujolais. Camembert is known and served chiefly as a dessert cheese with nuts and fruits, a world favorite. It is also becoming very popular as an appetizer when deep fried and served with fresh parsley and/or a semi sweet preserve (Figure 20).

FIGURE 20 NUTRIENT CONTENT (PER 100 GRAMS)

	Camembert
Energy	
Kilocalories (kcal)	300
Kilojoules (kJ)	1254
Protein (g)	20
Fat (g)	24
Calcium (mg)	388

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

Trend

Because of its fine texture and taste, Camembert has become very popular with cheese connoisseurs. Consumption is expected to increase among higher-income groups. Overall consumption in Canada will remain stable or decrease slightly in the next few years as consumers may switch back and forth from time to time to Brie and Camembert type cheeses (Figures 21 and 22). There are three major producers of Camembert in Canada: Agropur, ANCO and Neapolis Dairy Products. The Canadian chart indicates that Camembert production in Canada has to compete with the exchange rate fluctuations.

FIGURE 21. CANADIAN SUPPLY OF CAMEMBERT (INCLUDES IMPORTS)

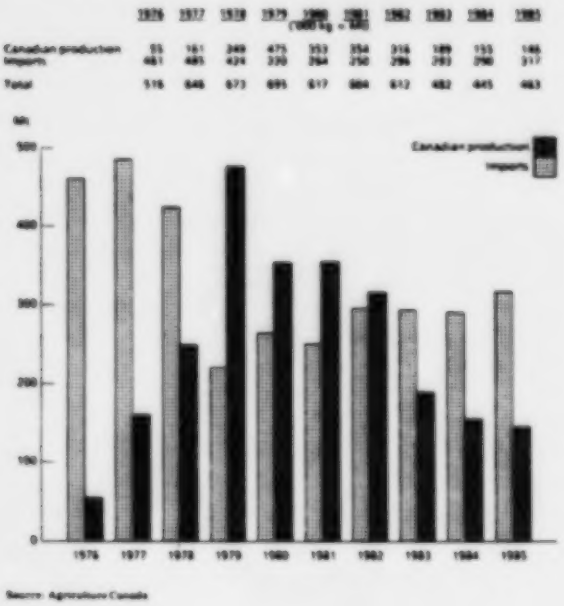
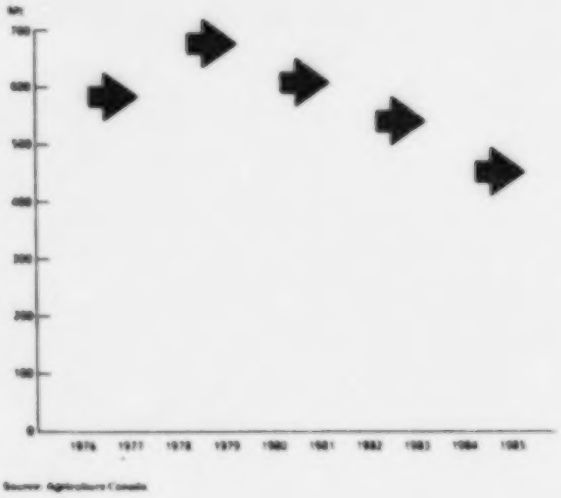


FIGURE 22. CANADIAN SUPPLY OF CAMEMBERT (INCLUDES IMPORTS)



References

Information provided by Philippe Biron, Aliments Culinar Inc; Jean Loevenbruck, Pascobel; Jean-Claude Coiffe, Agropur; Philippe M. Stora, Froche; and R.G. (Dick) Huggett, Dairyland Foods.

COLBY

Background

Colby cheese derives its name from the town of Colby, Wisconsin. The process of making Colby was developed by a frontier family named Steinward in the late 19th century. The process results in a mild cheese with many uses. In 1940, Colby was produced by Baden Cheese.

In the 1950s, Canadians were demanding a mild, multipurpose cheese. To satisfy this demand, Mr. Frank Leslie of the Leslie Cheese House Ltd. began to look for a process which would result in a natural, high-quality cheese with these properties. With his partner, Mr. Wes Krotz of Millbank Cheese Factory Ltd., Mr. Leslie travelled to Wisconsin to learn firsthand the cheesemaking techniques used by the Americans. To remove the whey, the Americans were washing the cooked curd with cold water. The resulting cheese had a sweet, fresh, milk flavor with a soft, open texture. Upon returning to Canada, the partners started to produce Nova Colby. As Mr. Leslie said, "Thus we had the mild flavor of a process cheese. It would slice and melt nicely and become quite popular." Colby's popularity was based on satisfying the consumer demand.

Colby cheese, which is similar to Cheddar, may be made from either raw or pasteurized milk. It is made in the same way as Cheddar except that (as in Granular or Stirred-curd cheese) the curd is not matted and milled. However, in making Granular or Stirred-curd cheese, water is not added to the curd to cool it as is done in making Colby.

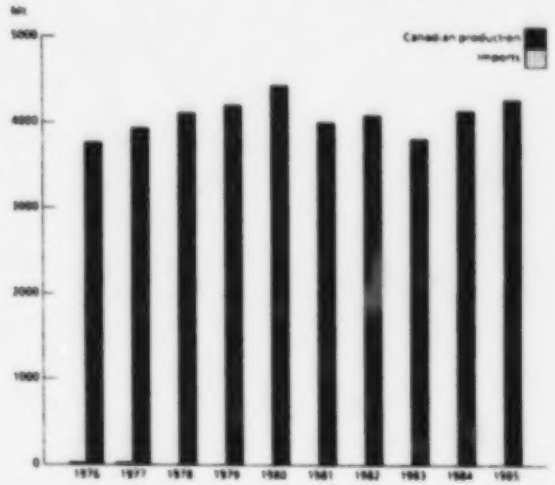
Colby has a softer body and more open texture than Cheddar cheese and it contains more moisture. For these reasons, it does not keep as well as Cheddar.

Trend

It was 20 years before serious competition entered the Colby market. By this time, Colby, being less expensive than Cheddar, had attracted the attention of other manufacturers. At present, a large number of manufacturers are producing Colby across the country. Colby is one of the major cheeses produced in Canada, but the trend for a North American cheese, such as Colby, may be levelling off, even though Colby is still being shipped to major markets by truckload (Figures 23 and 24).

FIGURE 23. CANADIAN SUPPLY OF COLBY (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	(000 Lb - 000)									
Canadian production	3,763	3,941	4,114	4,201	4,433	4,004	4,089	3,810	4,147	4,272
Imports	34	24	1	1	-	-	-	1	-	-
Total	3,797	3,965	4,115	4,202	4,433	4,004	4,089	3,811	4,147	4,272



Source: Agriculture Canada

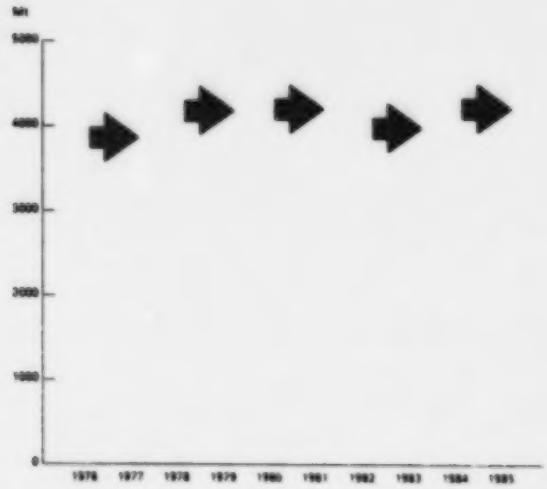
Utilization

Canadian families continue to purchase Colby because of its price and because of its mildness, lightness and versatility. Colby slices, melts and can be served with cold cuts, pickles or apples, as a dessert. Finally, Colby makes a good sandwich (Figure 25).

References

The information for this article was provided by Joan Chase of the Leslie Cheese House Ltd., Adolf Zundler of Agriculture Canada, Brian B. Kipping of Ault Dairies and D.Paul Corney of Alpha.

FIGURE 24. CANADIAN SUPPLY OF COLBY (INCLUDES IMPORTS)



Source: Agriculture Canada

FIGURE 25 NUTRIENT CONTENT (PER 100 GRAMS)

	Colby
Energy	
Kilocalories (kcal)	394
Kilojoules (kJ)	1647
Protein (g)	24
Fat (g)*	32
Calcium (mg)	685

*This may appear to be 1%–2% higher.

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assesament Program)

CREAM AND NEUFCHÂTEL

Background

Cream and Neufchâtel are two similar cheeses but are quite different in fat content. Neufchâtel cheese probably originated from the canton of Neufchâtel in Switzerland or from the rich pastures of Normandy, France. On the other hand, Cream cheese originated in Chester, New York, in 1872 and was developed by a dairyman name Lawrence. The best-known Cream cheese is Philadelphia Brand Cream Cheese, which was first produced in Edmeston, New York in 1880 and marketed to supply tastes of connoisseurs in New York City. Through the late 19th century, Cream cheese fame and production spread out from New York into the U.S. and the world. At the beginning of the century, Normandy Cream cheeses were famous and still are. Then, in Switzerland, in the canton of Neufchâtel, the Swiss made a cheese which had less fat – Neufchâtel. Since starting to produce Cream cheese in 1952, the Danes have captured a large share of the market by offering Cream cheese in a variety of sophisticated flavors.

Characteristics

In Canada, the production of a Neufchâtel cheese commenced in the early 1970s, when Mr. Roger Capdepon, a master cheesemaker, joined Fromagerie Cayer Inc. He brought with him vast experience in producing a wide range of cheese types. Mr. Capdepon commenced production of a distinctive Cream cheese called Le Baron. Besides its natural flavor, Le Baron is marketed in a wide range of unique flavors such as maple, strawberry, pepper and bacon.

The Liberty Cheese Co. has been producing Cream cheese in Canada for 25 years, using the older vat in the manufacture, namely, separating the whey in special cheese bags. The product is completely natural, made from fresh cream with a very smooth texture.

Western Bird's Hill Creamery has a history of making an excellent Cream cheese. In western Canada, Crescent Creamery in Winnipeg and Dairyland Foods in Vancouver produce a "Winnipeg" style spreadable Cream cheese. It has a smooth creamy texture, is packed in tubs and can be spread easily even when cold. It is especially good for spreading for sandwiches, bagels and for fancy hors d'oeuvres.

Cream cheese is made from cream which is pumped into large holding tanks. To eliminate any unwanted bacteria, the cream is heat-treated (pasteurized), a process that kills undesirable bacteria. After being cooled, the cream travels on to other tanks where a starter is added. This souring process is what gives the finished product its delicate, aromatic taste. The soured cream is now ready for the actual manufacturing process, but first it receives yet another heat treatment to halt the continued growth of lactic bacteria.

The warm, soured cream is centrifuged into Cream cheese and whey. The latter is sold to the farmers who use it for feed. The cultured Cream cheese is homogenized, which renders it cohesive and gives it a shiny and smooth appearance. Additions such as pineapple, orange, apricot, chocolate, herbs, etc., can be added and the mixture is ready to be filled into the various types of packaging.

The Cream cheese is sealed while warm, which helps give it excellent shelf life. Some packaging is made right in the plant, meaning that it is extruded, assembled into cartons, etc. Packs are cooled, given their final wrapping and marking and packed into shipping cases which are placed in cold storage.

Both Cream and Neufchâtel cheeses are made from cream or a cream-milk combination and are sold without curing and in a variety of packages including small packages. Neufchâtel has more moisture and less fat than Cream cheeses. About eight years ago, Mr. Jean-Noel Bongrain, with the assistance of Mr. Zauser, a technician, developed a Neufchâtel cheese. Because of the lower fat content, which met with the consumers' ideals, it was readily accepted by consumers who like the large variety of flavors such as smoked salmon, walnut, date and rum, vegetable, lemon, peach melba, jalapeno pepper, garlic and spices, etc. Bongrain is now the fastest-growing cheese firm in France and is looking for joint venture partners in several countries, including Canada.

Utilization

Cream cheese is most widely known for its use in desserts (i.e., cheesecakes). However, it can be used in all forms of cuisine, from salads to main course dishes. As with any cheese, it can be eaten by itself.

Because of its extreme mildness, it has a great many varied uses in dining. It is a most popular adjunct to salads, sandwiches, spreads, appetizers and many desserts.

Neufchâtel is an ideal party cheese. You can cut it and eat it with or without bread. You can spread it, cook it and torment it with your favorite recipe. Neufchâtel may have more flavor and may belong to the golden rules of French cuisine. This may be a new noble cheese because it does not cover the flavor you add to it, but enhances it (Figure 26).

FIGURE 26 NUTRIENT CONTENT (PER 100 GRAMS)

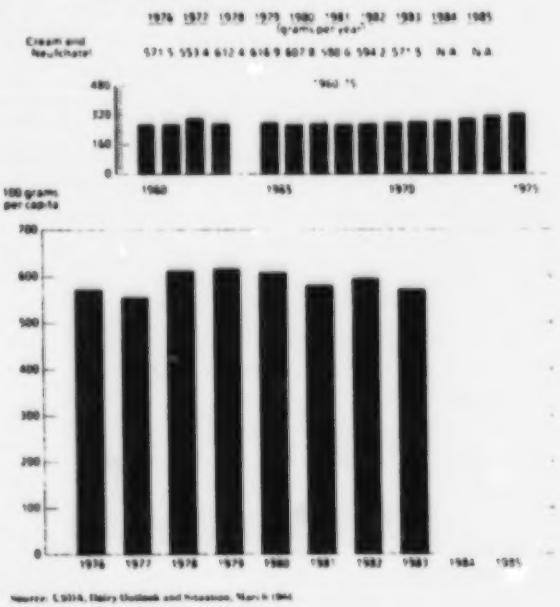
	Cream	Neufchâtel
Energy		
Kilocalories (kcal)	349	260
Kilojoules (kJ)	1461	1087
Protein (g)	8	10
Fat (g)	35	23
Calcium (mg)	80	75

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

Trend

Cream-type cheeses are one of the three fastest-growing cheese types emerging in North America. Cream is among the favorite cheeses in the U.S., with an increasing per capita consumption (Figure 27). The invention of the cream separator facilitated the production of Cream cheee. Using the separator, the whey is immediately separated from the hot Cream cheese mix (milk and cream) and the curd is packed hot. The end product can thus be stored for a longer period (up to 60 days). The popularity of Cream cheese has grown in Canada and should continue to do so (Figures 28 and 29). The cheese is very versatile and is often used in cooking or as a spread. The cheese is fairly inexpensive compared with other cheeses. Above figures indicate a doubling of the Canadian production from 1976 to 1982. When cheeses like this one develop without advertising, it is a good sign indeed! There are approximately 20 firms producing Cream cheese in Canada. The main ones are Kraft, Dairyland Foods, Malcolm Condensing, Liberty, Crescent, Astro, Atwood and Cayer.

FIGURE 27. U.S PER CAPITA CONSUMPTION OF CREAM AND NEUFCHATEL, 1976-85

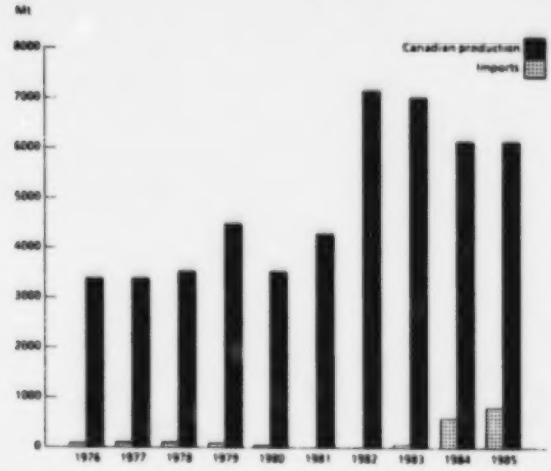


References

The information for this article was provided by W.S. Chalmers of Dofo, Art Goll and Adolf Zundler of Agriculture Canada, Michel C. Farges of Far-Met Importers Ltd., Denis Cayer of Fromagerie Cayer Inc., A. Gomel of Liberty, R.F. Lowery of Kraft Ltd. and Joan Leslie Chase of the Leslie Cheese House Ltd.

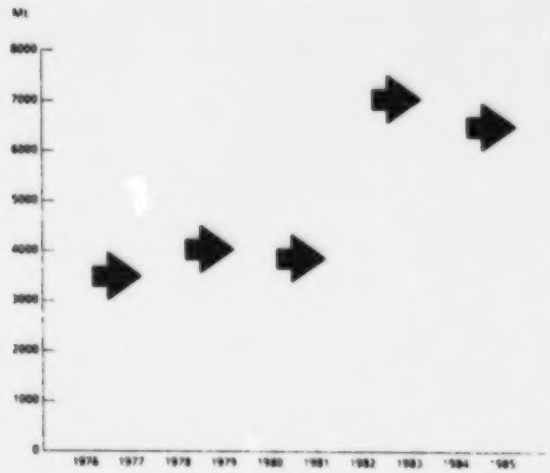
FIGURE 28. CANADIAN SUPPLY OF CREAM CHEESE (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					('000 kg = Mt)					
Canadian production	3,384	3,382	3,518	4,489	3,514	4,281	7,155	7,000	6,128	6,129
Imports	82	106	102	88	47	17	14	64	606	808
Total	3,466	3,488	3,620	4,577	3,561	4,298	7,170	7,064	6,734	6,936



Source: Agriculture Canada

FIGURE 29. CANADIAN SUPPLY OF CREAM CHEESE (INCLUDES IMPORTS)



Source: Agriculture Canada

EDAM

Background

The success of Edam in this day and age of diet consciousness is due to its partially skimmed milk content. This cheese was discovered early in the middle ages when farmers near the northern Dutch harbour of Edam found out that skimmed milk, mixed with rich whole milk and left to ripen, made a smooth and very mellow cheese.

That discovery led farmers to search for a way to make their product more distinctive than any other cheese. They found it 800 years ago in a combination of two factors: by producing a cheese in the shape of a sphere and rubbing the cheese, while maturing, with specially treated vermilion cloths, imparting a reddish glow to the rind of their cheese. That red rind became one of the oldest trademarks on record and is as unique as Edam's shape and taste.

Farmers near Edam traditionally made cheese only once a day, keeping evening milk overnight, skimming the cream which has gathered on top the next morning, then mixing the skimmed milk with whole, morning milk. Partially skimmed milk Edam cheese was the result.

Characteristics

Edam cheese has a firmer texture at a younger age than Gouda. The lower degree of milk fat content in cheese allows more lactose to be converted into lactic acid. Consequently it ages more rapidly and can be made and kept in the form of a perfect sphere. It may still be the world's only cheese in this shape. It has a minimum of 40% milk fat on the dry basis and has a clean, slightly salty flavor (Figure 30).

Edam production has spread throughout the world. In 1976, Oak Grove Cheese Factory commenced production of Edam in Canada, as this cheese could be made using their existing equipment for Italian cheese. They found the venture to be most successful. The other main producers are Dairyland Foods in Armstrong, B.C.; Delisle Foods (Gay Lea Foods) in Milverton, Ontario; Atwood Cheese Co. Ltd. in Atwood, Ontario; and Cypress Hills Cheese Ltd. in Swift Current, Saskatchewan (Figures 31 and 32). Canadian production is limited due to strong competition from several countries in Europe and New Zealand. Edam is sold through delis and retail packers. There is a limited use of Edam cheese in the pizza trade, where it is blended with other cheese.

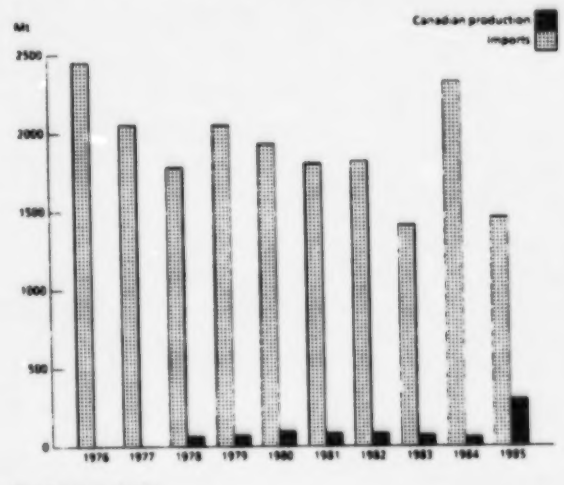
FIGURE 30 NUTRIENT CONTENT (PER 100 GRAMS)

	Edam
Energy	
Kilocalories (kcal)	357
Kilojoules (kJ)	1492
Protein (g)	25
Fat (g)	28
Calcium (mg)	731

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

FIGURE 31. CANADIAN SUPPLY OF EDAM (INCLUDES IMPORTS)

	1975	1977	1978	1979	1980	1981	1982	1983	1984	1985
					('000 kg = MT)					
Canadian production	-	-	65	70	56	68	83	70	58	302
Imports	2,451	2,063	1,787	2,061	1,980	1,814	1,824	1,424	2,335	1,470
Total	2,451	2,063	1,852	2,131	2,036	1,902	1,907	1,494	2,393	1,772



Source: Agriculture Canada

Utilization

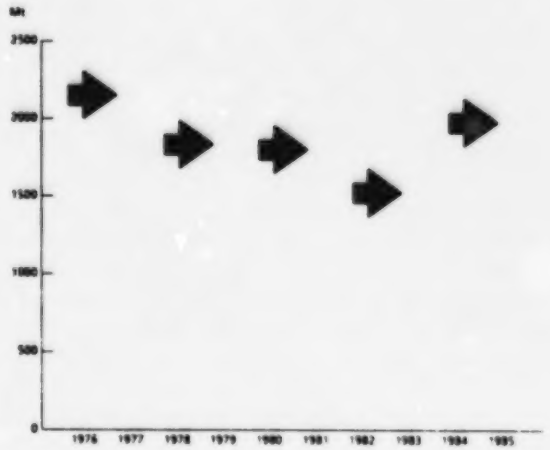
Today, Edam is marketed in spheres of 850 grams (Baby Edam) and 1.8 kilograms or in loaves of 2.2 or 4.5 kilograms.

Edam is an all-purpose cheese. It can be used as a snack along or with other foods such as nuts and sweet fruit, in a cheese tray or in a sandwich. Edam can be used in recipes requiring a cheese of distinctive characteristics.

References

The information is supplied by Reta Langenegger of Oak Grove Cheese Factory Ltd., New Hamburg, Ontario; Jan K. Overweel of Jan K. Overweel Ltd., Toronto, Ontario; C. Vander Top of Top's Importing Ltd., Grimsby, Ontario; Bob Huising of the Holland Cheese Exporters Association; and Dave Tyers of Ronald A. Chisholm, Toronto.

FIGURE 22. CANADIAN SUPPLY OF EDAM (INCLUDES IMPORTS)



Source: Agriculture Canada

EMMENTAL AND SWISS-TYPE CHEESES

Background

Emmental is one of the world's most famous cheeses. Its origins go back to the 15th century to the canton of Bern, in the valley of the Emmental, Switzerland. The method of producing Emmental was passed down from father to son, resulting in the development of a number of customs and rituals associated with its production. But the importance of the Emmental Valley as cheesemaking country derives from the Allemanic inheritance system, which left a farm to the youngest son. The older sons were bought out, leaving them with money but with no land. The older sons were forced to learn a trade, which in reality had the connotation of becoming an independent cheesemaker. Thus, cheesemaking in Switzerland was from early times a profession, an indication of the high-quality tradition of Swiss-type cheeses. The first shipment of Emmental to Canada is recorded to be in 1885 when 2,312 kilograms were exported from Switzerland.

Emmental-type cheeses are now produced by many countries around the world, including Canada. In 1978, Mr.François Conrad, a master cheesemaker, joined the firm of Dalpé et Frères Cie Inc. (originally a creamery founded in 1899) of Verchères, Quebec, to form the basis for the company's production of Emmental. Mr. Conrad brought with him almost 30 years of experience in France, Sweden and Denmark. From a modest start of four wheels per week in October 1978 (each wheel weighing over 80 kilograms), within five months production expanded to 16 wheels per day, a 2,000% increase, of quality Emmental. As a testimony to the quality and to Mr. Conrad's abilities, the Canadian Emmental of Dalpé et Frères Cie Inc. was both "Champion" for its class and "Grand Champion" cheese at the 1979 Royal Winter Fair. As a result, 350 to 400 wheels of Emmental are now being produced daily.

Characteristics

Emmental is a firm interior-ripened cheese made from cow's milk. The cheese is ivory to light yellow in color on the inside and is noted for its large holes (1 to 3 cm in diameter) uniformly distributed throughout the cheese. It takes about seven to ten months of maturing to produce the pronounced sweet and nutty flavor. An Emmental weighing 80 kilograms requires 1,000 litres of milk.

Swiss-type cheeses may be made in other countries besides Switzerland, but the quality may be different since the cheese is cured for only two to four months instead of six to ten. The texture is different and the eyes smaller. Premium quality also demands greater skill in production because the raw milk from which the cheese is made is more likely to have defects. Pasteurized milk may also be used. However, as a result of technology, most of today's Swiss-type cheeses are made by mechanical means. Swiss-type cheeses (unlike Emmental in 80-kilogram wheels) comes in three characteristic sizes: rounds weighing a minimum of 50 kilograms, rectangular blocks and/or rindless blocks of a minimum 18 kilograms.

Utilization

Emmental's worldwide popularity comes from its wide range of uses. In its natural state, it can be eaten as a snack, alone or with meat and cold cuts and with other foods, in sandwiches or as a topping on prepared foods. In cooking, it can be used to enhance the flavor of many dishes, especially soups as well as main courses and desserts. Of course, it makes a great cheese fondu. Emmental adds zest and protein to chilly-day menus (see recipes).

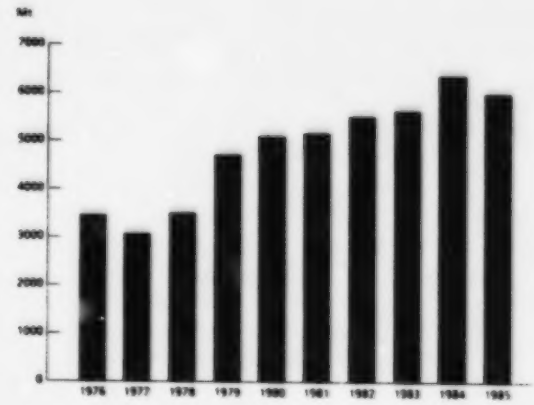
Trend

Dalpé et Frères Cie Inc. was purchased by Agropur in 1983 Figures 33 and 34 indicate a doubling of the production of Swiss-type cheeses in Canada from 1977 to 1984.

Figure E indicates that Swiss-type cheeses (Emmental, Swiss, Gruyère) are one of the three fastest growing types of cheeses in Canada.

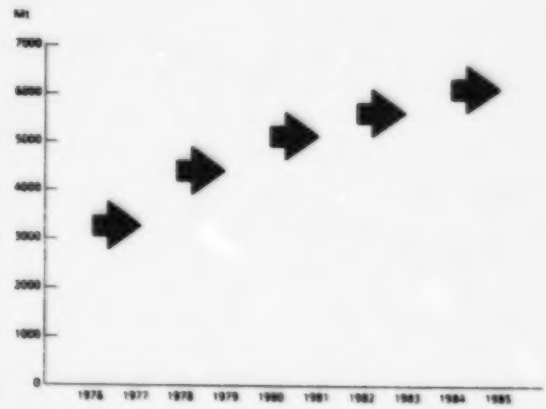
FIGURE 33. CANADIAN SUPPLY OF EMMENTAL, GRUYÈRE AND SWISS-TYPE CHEESES (INCLUDES IMPORTS)

	1975	1977	1978	1979	1980	1981	1982	1983	1984	Est. 1985
					(1000 kg = Mt)					
Canadian production and imports	3,454	3,074	3,490	4,695	5,095	5,155	5,492	5,618	6,349	5,989



Source: Agriculture Canada

FIGURE 34. CANADIAN SUPPLY OF EMMENTAL, GRUYÈRE AND SWISS-TYPE CHEESES (INCLUDES IMPORTS)



Source: Agriculture Canada

Kraft and Agropur remain the major suppliers of Swiss-type cheeses, but smaller firms such as Crémerie St-Fidèle and Fromagerie Côté also produce Swiss-type cheeses. Several other firms have indicated their interest in producing it. The Canadian production of Emmental is also growing and is most promising (Figure 35).

FIGURE 35 NUTRIENT CONTENT

Emmental cheese is an extremely nourishing food, complete with proteins, fats, minerals and vitamins. One hundred grams contain:

30% protein	– equals 40% of the estimated minimum daily requirements
31% milk fat	– equals a third of the daily energy requirements of an adult and is an excellent energy food
0.6% phosphorus	– equals 50% of the usual daily requirement
1.1% calcium	– equals the normal daily calcium requirement.

It also contains vitamins A, D, E, K and vitamins of the B-complex and the provitamin Carotin.

*Source: Heinz P. Hofer, Switzerland Cheese Association.

Cheese is the only important protein food that is also rich in calcium. How splendid that a food which tastes so nice should be so good for you.

References

The above information was supplied by Jean-Luc Demers; Heinz P. Hofer, Switzerland Cheese Association; Art Goll, Agriculture Canada; and Fernand Berthiaume, Agrinove.

FETA

Background

Feta, a cheese stored in brine, is of Greek origin and today, as in the days of Homer, still forms an important part in the Greek diet. The shepherds of ancient Greece made their Feta from sheep's milk. But as production spread throughout the world, principally into the Middle East, central Europe and the Balkans, the milk of whatever animals were locally available, including cows, sheep, goats, even buffalo, was used as the principal ingredient.

In 1953, Nemo and Stephanie Evanoff of the Evanoff Cheese Factory in Ontario began to produce Feta for their own consumption. Any excess to their needs was sold at local farmers' markets. In the early 1970s, two firms specializing in Greek-type cheeses, Ainos Milk Products Ltd. of Scarborough, Ontario and Macedonian Import/Export Company Ltd. of Dunnville, Ontario, commenced the production of Feta in Canada on a commercial scale. For their first years, Ainos Milk Products Ltd. had a production scale hardly sufficient to satisfy the Toronto market. In 1978, their Feta won first prize in the semi-soft cheese category at the 1978 Canadian National Exhibition. Between 1980 and 1985, their production tripled, making the company a leading Canadian producer of Feta. Around 1980, under the leadership of Mr. Roger Capdepon, master cheesemaker, Fromagerie Cayer Inc. began to produce this cheese. Feta became one of the company's prize products and captured a sizable portion of the Canadian market over the last five years.

Characteristics

The unique characteristic of Feta cheese is that it is preserved in brine, allowing it to be stored without refrigeration for a considerably moderate amount of time, but in a fresh, damp environment such as a cellar, for example. This is possible because the cheese is produced with natural rennet extracted from the stomach of a very young spring lamb. Thus the population of this large area was assured a food supply that suited their nomadic life and remained edible through the region's climatic extremes. Today, throughout the world, the majority of Feta is made from cow's milk and produced with microbiological rennet and therefore needs to be stored at temperatures around 3 to 4 degrees celcius. Under proper care and conditions, Feta cheese has an attractive longevity and freshness factor, which surpasses that of most cheeses under the same conditions due to the fact that it is stored in brine. Refrigeration is most desirable. Refrigeration allows the amount of salt in the brine to be reduced without losing the fresh and distinctive taste of Feta cheese.

International standards requires that Feta cheese have a butterfat content of 22% and a moisture content of 55%. This particular standard was adopted from Greece, and all Canadian producers conform to it (Figure 36).

FIGURE 36 NUTRIENT CONTENT (PER 100 GRAMS)

	Feta
Energy	
Kilocalories (kcal)	273
Kilojoules (kJ)	1140
Protein (g)	15
Fat (g)	22
Calcium (mg)	509

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

Utilization

Feta is traditionally stored in a brine solution, which gives Feta its slightly salty taste. It will keep for months in this solution. Feta is a soft, white cheese with a very fine texture and an excellent taste.

Traditionally, for the Greeks, Feta represented the national meal, for it was eaten with breakfast, lunch and supper. Feta is used as an accompaniment to bread, as a side dish or in a sandwich. Feta makes a delicious snack when accompanying citrus fruits. When served with

jams, it creates a salty-sweet contrast, which is very pleasing to the palate.

In cuisine, Feta is used for making tiropita (cheese strudel), spanakopita (spinach strudel) and copanisti (a tangy cheese spread). Feta's best-known use is in Greek salad. Today, the Greek salad is well known all over the world, consisting of lettuce, onions, tomatoes, Feta cheese, Greek olives and olive oil, and spread with oregano.

Trend

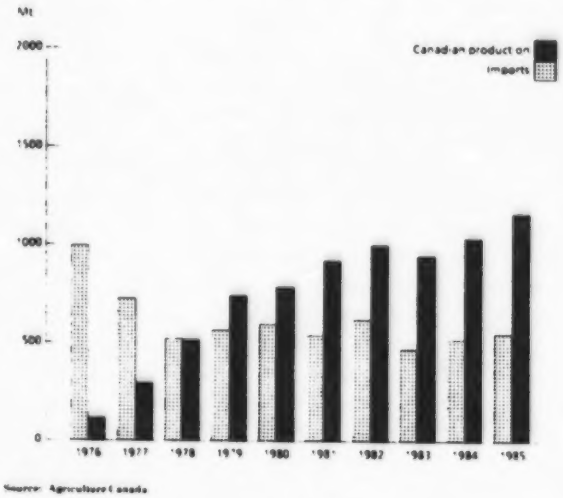
The demand for Feta in Canada appears to be on the rise, as can be seen in our Canadian chart. The reason is the increasing popularity of Greek foods. Greek salad, for example, uses liberal amounts of Feta. The major producers in Canada are Ainos Milk Products Ltd. in Ontario, Alfa Dairy Products in Weston, Ontario, Fromagerie Cayer and Saputo Cheese in Quebec as well as Macedonian in Mississauga, Ontario. A small dairy (Woolwich) also produces a goat's milk Feta. The Evanoff Cheese Factory in Caledon, Ontario, is still making a small amount and selling it at the local farmers' market. Several European countries, including countries in eastern Europe, are exporting Feta to Canada, creating from time to time a very competitive situation in the Canadian marketplace (Figures 37 and 38).

References

Mr. D. Myrianthis of Krinos Foods Canada Ltd., Montreal, Quebec; Mrs. Stephanie Evanoff of Evanoff Cheese Factory, Caledon, Ontario; Mr. Denis Cayer, Fromagerie Cayer Inc., St. Raymond Cte Porteuf, Quebec; J. Miloni and B. Peterson, Miloni Food Importers Ltd., Burnaby, B.C.; Steve Arvanitis, Ainos Milk Products Ltd.; Adolf Zundler, Agriculture Canada; and Chris Voyages, Alfa Dairy Products of Ontario, Weston, Ontario.

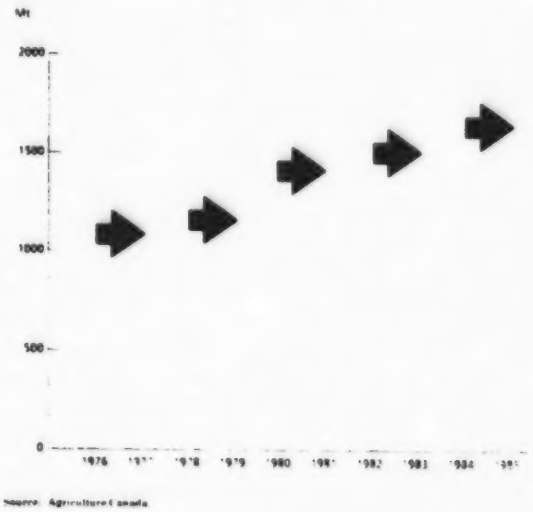
FIGURE 37. CANADIAN SUPPLY OF FETA (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(000 kg = 1Mt)					
Canadian production	117	298	517	743	787	922	1 004	945	1 036	1 168
Imports	999	729	523	568	595	541	621	473	521	553
Total	1,116	1 027	1 040	1 311	1 382	1 463	1 625	1 418	1 557	1 721



Source: Agriculture Canada

FIGURE 38. CANADIAN SUPPLY OF FETA (INCLUDES IMPORTS)



Source: Agriculture Canada

GOUDA

Background

The Canadian demand for Gouda resulted from the immigration of Dutch families into Canada following World War II. As a result, importers such as Jan Overweel and C. Vander Top catered to that demand by importing Gouda in larger quantities following the settlement of a great number of Dutch families in the immigration period from 1950 to 1960.

Gouda derives its name from the city of Gouda, in the Dutch province of south Holland. From the middle ages to the early 20th century, Gouda was made by farmers' wives twice daily after each milking and sold every Thursday at the cheese market in Gouda. Since 1906, factories have taken over the bulk of Gouda production; however, it is still sold at the Thursday market.

Initially, Gouda was sold only by 4-kilogram wheels. Over the years, other sizes and shapes were developed and now range from 283-gram Baby Gouda through wheels of 4 and 10 kilograms to 20-kilogram squares. Also, a number of varieties were developed, for example, mild, medium, aged, spiced with cummin seed, Roomkaas (extra fat) and Amsterdam (extra mild).

In the late 1970s, two Canadian companies, Oak Grove Cheese Factory and Millbank Cheese and Butter Ltd., both of Ontario, commenced production of Canadian Gouda in 1976. Both companies have been successful in marketing their cheese in Canada.

Characteristics

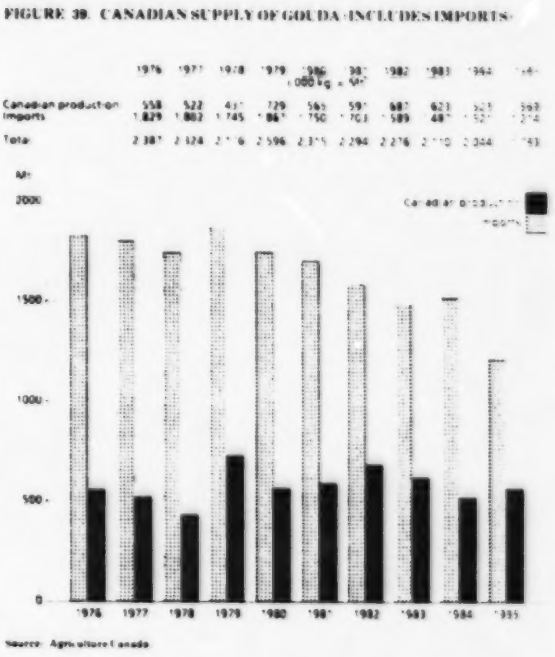
In Canada, consumers are accustomed to purchase small Baby Goudas in the red cryovac, but traditional Dutch Gouda in Europe is wheel-shaped with a natural yellow rind. North American consumers are so familiar with the red rind that, a few years ago, when Wisconsin farmers tried to introduce the Dutch traditional yellow rind, they faced such an adverse reaction from consumers that they had to change the yellow rind back to the more familiar North American red rind.

However, in Canada, the 4-kilogram wheels, sold mainly in specialty stores and delicatessen counters are made and sold with a yellow rind. Some 19-kilogram blocks are sold without colored rind.

Trend

The market share for Gouda in Canada has been very steady around 2,000,000 kilograms per year (Figures 39 and 40). The Canadian market share for Gouda, a versatile cheese, should increase in Canada as it has done in the U.S. in recent years (Figure 41). The major producers of Gouda are Kraft, Gay Lea Foods, Grande Cheese, Balderson Cheese and Dairyland Foods.

FIGURE 39. CANADIAN SUPPLY OF GOUDA (INCLUDES IMPORTS)



Source: Agriculture Canada

Gouda is a whole milk cheese with a minimum milk fat content of 48% in the dry matter and an average weight of 4 kilograms. The ripening depending on consumer preference takes from four weeks to more than six months (Figure 42).

FIGURE 40. CANADIAN SUPPLY OF GOUDA (INCLUDES IMPORTS)

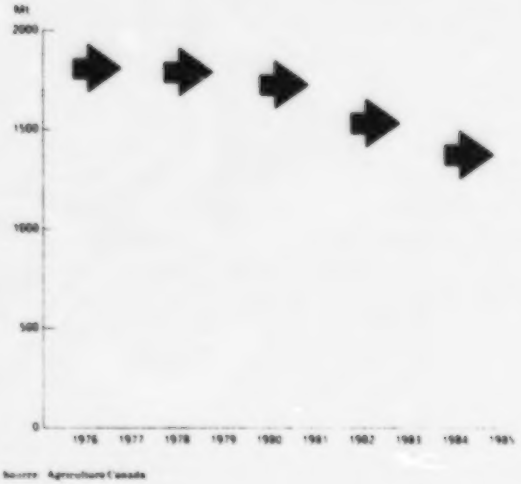
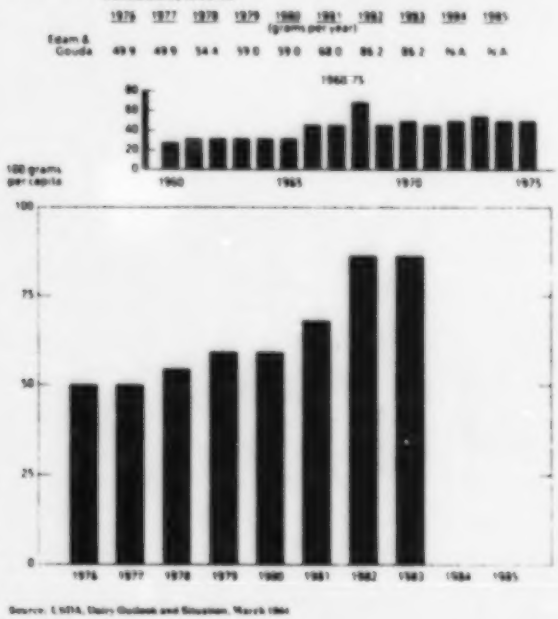


FIGURE 41. U.S PER CAPITA CONSUMPTION OF EDAM AND GOUDA CHEESES, 1976-85



Utilization

Gouda is a very versatile cheese. Gouda cheese slices easily and is consumed sliced on bread for breakfast and for the evening "coffee table"; on sandwiches, toasted in the oven and topped with tomatoes or fried egg. It can be cubed and served with mustard or topped with pickled onion or pineapple cubes as an appetizer. Gouda cheese cut in small cubes is a perfect ingredient for a summer salad.

In cooking, Gouda can be used in any recipe requiring a firm cheese. The age of Gouda helps determine how it is best used. Young Gouda (4 to 6 weeks) is best for melting such as in potatoes or on tomatoes or added to mashed potatoes or stews. Mature Gouda remains invisible but tasty in recipes such as cheese ragouts, omelets and soufflés. Old Gouda (8 to 12 months) is best for grating.

FIGURE 42 NUTRIENT CONTENT (PER 100 GRAMS)

	Gouda
Energy	
Kilocalories (kcal)	364
Kilojoules (kJ)	1521
Protein (g)	24
Fat (g)	28
Calcium (mg)	714

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

Kaasdoop, the Dutch Fondue

The Dutch farmers used Gouda to prepare Kaasdoop, a fondue-like type of dish, using brown bread or potatoes for dipping. This is a traditional, simple, utilitarian dish, particularly convenient when the busy farm schedule left little time for elaborate preparation. The Gouda Kaasdoop is a fondue-like dish in which cheese is cooked with milk and eaten in the manner of a Swiss fondue, but with brown bread or boiled potatoes. A rather rustic country dish, it was later taken up by city dwellers who served it in a more elegant fashion with French bread and fondue forks, dipping the bread into the Kaasdoop contained in a fireproof dish over a small flame.

References

The information was gracefully supplied by Rita Langenegger of the Oak Grove Cheese Factory; Jan K. Overweel of Jan K. Overweel Limited; C. Vander Top of Top's Importing Limited, Bob Huising of the Holland Cheese Exporters Association and R.G. (Dick) Huggett of Dairyland Foods.

GRUYÈRE

Background

Gruyère is as equally famous as its cousin, Emmental. Its name comes from the region of Gruyère in the canton of Fribourg, Switzerland. Its origins date back to 1115 when the first Count of Gruyère founded the Abbey of Rougemont and levied a tithe, which included the payment of cheese. This cheese became known as Gruyère. By the 16th century, the cheese was exported to both France and Italy. Today, Gruyère is produced in the entire French-speaking region of Switzerland.

In Canada, Gruyère-type cheese is manufactured by L'Abbaye de Saint-Benoît-du-Lac (founded in 1912). The Abbey is situated on the shores of Lake Memphramegog, about 150 kilometers south east of Montreal. The cheese is marketed under the brand name of "Mont Saint-Benoît". The Monks started cheesemaking in 1943 and fifteen years later, in 1958, they expanded to include the production of "Mont Saint-Benoît", a rindless Gruyère cheese which has been a very successful product. When it comes to "Mont Saint-Benoît", one taste is worth ten thousand words. This smooth cheese with holes a little smaller than found in Swiss cheese has a fine, satisfying, nutty flavor that is almost impossible to describe.

Characteristics

You can get an idea of its quality, however, when we tell you that it takes 12 pounds of milk to make one pound of cheese. To have absolute control over quality, the cheese is made in small batches by six brothers, three fathers and four lay employees at the Abbey of Saint-Benoît-du-Lac in Quebec, which houses this Benedictine order. The Benedictines made this same type of cheese for many decades in Europe and it was also Benedictines who created Munster cheese back in the seventh century.

With centuries of cheesemaking behind them and with knowledge handed down from one generation to the next, the Benedictine monks have earned a well-deserved reputation for the excellence of their products.

At Saint-Benoît-du-Lac, cheesemaking starts at 5 or 6 a.m. and by 11 a.m. the cheese is in the presses. By 2 p.m., the cheese is being refrigerated prior to its 2-day bath in salt brine. After that, it is put in "caves" – cellar-like rooms which are kept at various temperatures.

For an entire month, the cheese – actually a living thing – is shifted from one of the four caves to another to speed up or slow down its development. There are times when the monks spend the entire day working in the caves moving the 12-pound wheels to different areas.

Of course, it takes long experience and very specialized knowledge to keep the cheese developing at the ideal rate. Every batch is a little different.

At the monastery, the cheese is served daily for breakfast and it is often served toasted in onion soup. We recommend both ideas.

Utilization

Gruyère is a multipurpose cheese. "Mont Saint-Benoît" is a mild cheese of the Gruyère type, with the characteristic hint of hazelnut. As with all Gruyère types, it should be served at room temperature to allow its aroma to develop.

Gruyère is used as a snack at any time, as an hors d'oeuvre and as table cheese. It also enhances salads and other foods.

As Gruyère resists the formation of threads when heated, it is excellent for use with hot dishes in the grated form. Gruyère forms an even crust on baked dishes. The matured types are especially suited for fondue. A true Swiss fondue is made up of both the highly flavored Gruyère and the blander Emmental in combinations to suit individual tastes.

Gruyère-type cheese stores well. In their rind and refrigerated, they will keep fresh for several months. They can be frozen, but must be thawed in the refrigerator and served at room temperature (Figure 43).

Trend

Consumption of cheese of the Gruyère type is increasing in Canada (Figures 44, 45 and 46). The figures include Swiss-type cheeses which are having a phenomenal growth in Canada. Fromagerie Côté in Warwich, Quebec, also produces a Gruyère-type cheese which is very tasty.

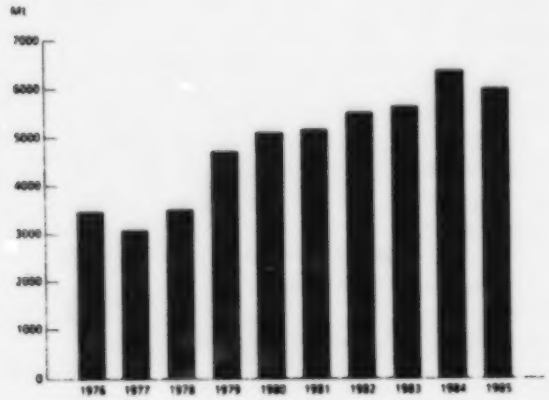
FIGURE 43 NUTRIENT CONTENT (PER 100 GRAMS)

	Gruyère
Energy	
Kilocalories (kcal)	413
Kilojoules (kJ)	1728
Protein (g)	30
Fat (g)	32
Calcium (mg)	1011

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

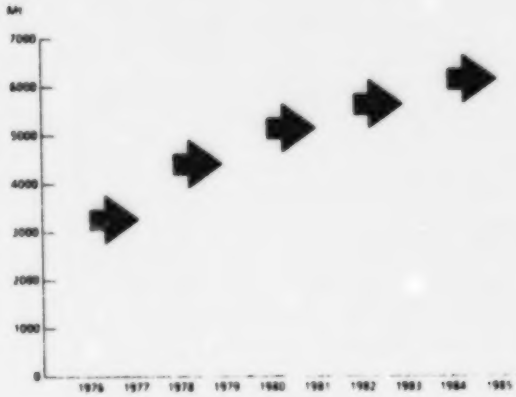
FIGURE 44. CANADIAN SUPPLY OF EMMENTAL, GRUYÈRE AND SWISS-TYPE CHEESES (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	Est. 1985
	(1000 kg = 1Mt)									
Canadian production and imports	3,454	3,074	3,480	4,695	5,095	5,155	5,492	5,618	6,349	5,989



Source: Agriculture Canada

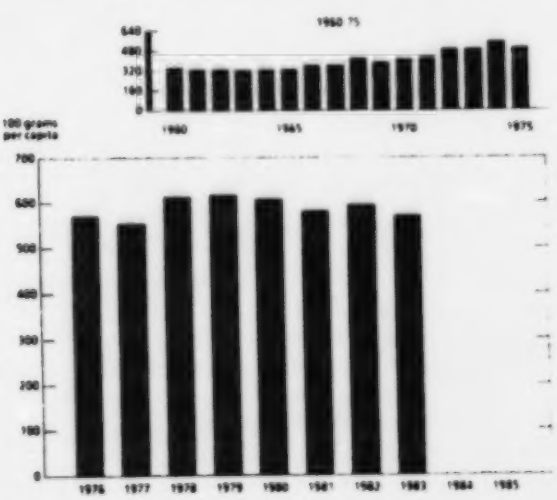
FIGURE 48. CANADIAN SUPPLY OF EMMENTAL, GRUYÈRE AND SWISS-TYPE CHEESES (INCLUDES IMPORTS)



Source: Agriculture Canada

FIGURE 49. U.S PER CAPITA CONSUMPTION OF SWISS CHEESE, 1976-85 (INCLUDES IMPORTS OF GRUYÈRE AND EMMENTAL)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	(grams per year)									
Swiss	571.5	553.4	612.4	616.9	607.8	580.6	594.2	571.5	N.A.	N.A.



Source: USDA, Dairy Outlook and Situation, March 1984

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Father Jacques Bolduc O.S.B. of "Les Bénédictins de l'Abbaye de Saint-Benoit-du-Lac" and from the *Big Cheese News*, Vol. II, No. 10.

HAVARTI

Background

In the past 20 years, the Canadian diets have changed, leading to a demand for more cheese, especially those of the mild European types. Since it was introduced in the mid-1940s, Havarti has been one whose demand has increased. In the late 1970s, small cheese factories commenced production of limited amounts of Havarti. The first large-scale producer was the National Cheese Company Ltd. of Toronto, who successfully commenced production in 1983. However, imports continue to greatly exceed Canadian production.

Havarti, the mild Dane, is a cheese of Danish origins. Around the mid-19th century, Hanne Nielsen, a farmer's wife, started experimenting with the production of various European cheeses. With little knowledge of foreign languages, she toured Europe, studying the various cheesemaking methods. On returning to her farm "Havartigaard," she started experimenting and developed the cheeses. Because of her cheeses' quality, Hanne Nielsen was awarded the distinction of Purveyor to the Danish King Christian IX, and the popular Danish Tilsit cheese, which was copied from the German Tilsit, was named Havarti in her honour.

Characteristics

In fact, there are two quite different types of Havarti: Havarti 45%, the original, and Havarti 60% or Cream Havarti, which was developed in the 1950s as a copy of the Swedish Graddost (Cream cheese). The two cheeses have very similar appearances, both being yellowish white with rice-sized holes. However, they are quite different cheeses. Havarti 45% begins as a mild cheese, but becomes strong and tangy as it ages. Cream Havarti is mild and is packaged immediately so it does not develop a rind nor age (Figures 47 and 48).

Utilization

Both Havartis have a buttery flavor and open texture and are very aromatic. Canadian families purchase Havarti cheese mainly as a table cheese, for its flavor and versatility, which make it acceptable to the whole family. Havarti can be melted, sliced, served on a sandwich, or with salad, olives and other delicatessen. Fruits and vegetables mix well with its pleasant flavor.

FIGURE 47 NUTRIENT CONTENT (PER 100 GRAMS)

	60% Havarti	45% Havarti
Calories (kcal)	414	318
Protein (g)	20	24
Fat (g)	37.2	24.4
Calcium (mg)	900	945

Source: Danish Dairy Board and Danish Cheese Association

FIGURE 48 VITAMINS

	60% Havarti	45% Havarti
Vitamin A (re)	375	275
Vitamin D (iu)	0.33	0.27
Vitamin B1 (mg)	0.05	0.05
Vitamin B2 (mg)	0.33	0.33
Vitamin Niacin (ne)	5.8	6.1
Vitamin B6 (mg)	0.1	0.1
Vitamin C (mg)	0.5	0.5

Source: Danish Dairy Board and Danish Cheese Association

Cream Havarti is sold with a variety of added spices. The most popular are caraway seeds, dill and mustard.

Trend

The Cream Havarti (60%) has taken the cheese world by storm, as Havarti has always been a popular cheese in Canada. It is expected that consumption will remain fairly steady or even increase in the near future (Figures 49 and 50).

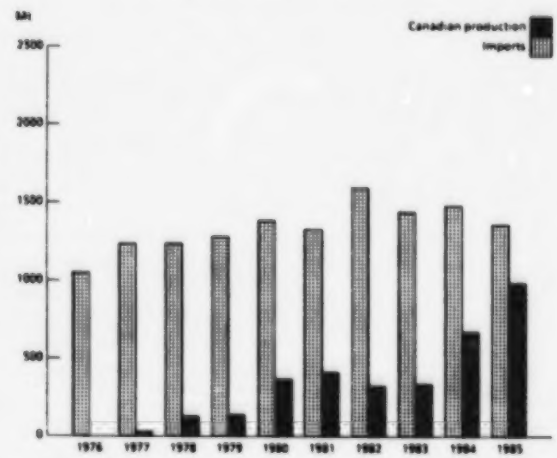
The major producers of Havarti are Ault Foods Ltd. in Winchester, Ontario; National Cheese in Concord, Ontario; ANCO at their Corneville plant in St-Hyacinthe, Quebec; G.E. Barbour Co. Ltd. in Sussex, New Brunswick; the Baden cheese factory in Baden, Ontario (Gay Lea Foods); and Dairyland Foods in their specialty cheese plant located in Armstrong, B.C.

References

Information for this article comes from Dr. Ottavio Salvadori del Prato of the National Cheese Company Ltd. of Toronto; Mr. W.S. Chalmers of Dofo Cheese Company Ltd., Mississauga; Ole Andersen of Plumrose Inc., Scarborough; and Knud Westergaard of the Danish Cheese Association in Canada.

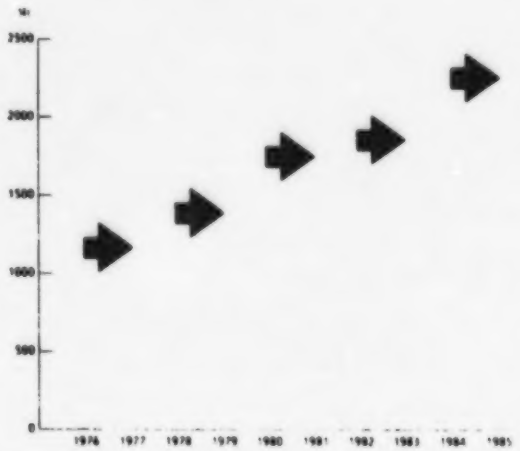
FIGURE 48. CANADIAN SUPPLY OF HAVARTI (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(000 kg - DB)					
Canadian production	-	35	132	143	369	413	323	336	672	983
Imports	1,052	1,235	1,236	1,281	1,381	1,326	1,590	1,441	1,479	1,360
Total	1,052	1,270	1,368	1,424	1,750	1,741	1,915	1,777	2,151	2,343



Source: Agriculture Canada

FIGURE 80. CANADIAN SUPPLY OF HAVARTI (INCLUDES IMPORTS)



Source: Agriculture Canada

MOZZARELLA

Background

Mozzarella is a member of the pasta filata cheese family, all of which are stretched during manufacturing. This cheese is mentioned in the first quarter of the 18th century, when it was made near Naples from the rich milk of the water buffalo (herds still graze on some plains of Campania). It is this milk that gives Mozzarella its characteristic white color and aromatic milky flavor. The cheese derives its name from the Italian word *Mozzare*, i.e., to cut, an action carried out in the production of the cheese.

Italian immigrants brought the art of producing Mozzarella to North America, particularly New York, at the beginning of this century. Slowly, the production spread outward and entered Canada before the beginning of the Second World War. In 1949, Silani Cheese Company began the first large-scale production of Mozzarella and they were followed by other companies.

Characteristics

Today, two basic types of Mozzarella are manufactured. The first is a more traditional type, being a small round of soft, white, rich cheese. It is made with whole milk. The other type is a loaf shape of about 5 pounds, made from partly skimmed milk. This cheese, called Part Skim Mozzarella or pizza cheese, contains less fat, is less tasty than the other, and is more suitable for use in commercial pizzas.

American Mozzarella, a misnomer, has little in common with the real Mozzarella. Its manufacturing process is substantially different from the traditional Mozzarella (i.e., there is no stretching of the curd). The resulting cheese is harder, less milky and drier than the traditional cheese. It is adapted for the American market, and there are substantial quantities of this type of cheese produced and sold in Canada.

Utilization

In appearance, Mozzarella should be white. The interior should be very white, creamy looking and smooth. Mozzarella could also have a creamy color due to the feeding of dairy herds as in the Frazer Valley in B.C. Mozzarella must be stored in an airtight plastic wrap and refrigerated. Usual beverage matches are coffee and white wine.

Mozzarella is a true multi-use cheese because good Mozzarella has a soft and moist texture. Its most common use is as a topping on many dishes, the most famous being pizza, lasagna and other Italian dishes.

Mozzarella tastes great alone or with a dash of pepper and olive oil, sliced tomatoes and a few anchovies. It can be used in a salad, in hors d'oeuvres and with cold cuts.

The major consumer of Mozzarella cheese is the prepared food industry.

Trend

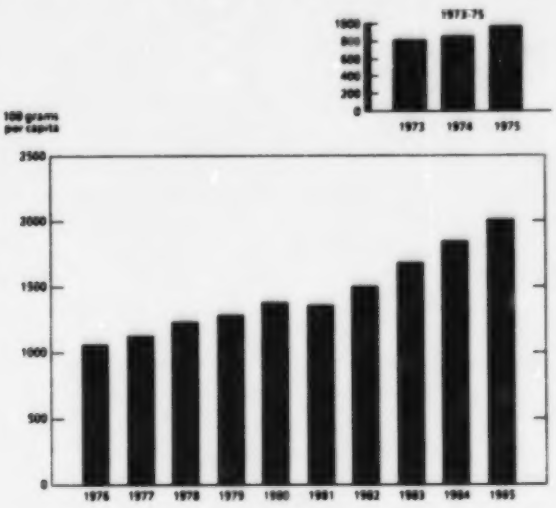
The use of Mozzarella on the table of Canadians is so widespread that almost every family has its own special use or preferred utilization. Mozzarella's use and production has been on the increase constantly for the past 20 years, as indicated in our Canadian and U.S. figures. The trend looks as if it will continue in the future (Figures 51, 52, 53 and 54).

Mozzarella has achieved world fame, due to its being a main ingredient in pizza. It is the largest-selling specialty cheese sold in foodservice markets. The foodservice business (at the corporate and independent foodservice trade levels) provided early indications of the magnitude of the growth forecasted for the fast-food trade.

Unlike other specialty cheese accounts, the major users of Italian Mozzarella demand modifications to the basic procedure to produce a cheese with the desired texture, taste and melting characteristics. The ability to respond to these demands is a key to success in this field. Each major account has its own particular recipe for making pizza and, in order to maximize the functionality and taste in each instance, each employs its knowledge of the production aspects of cheese to "customize" the product (Figure 55).

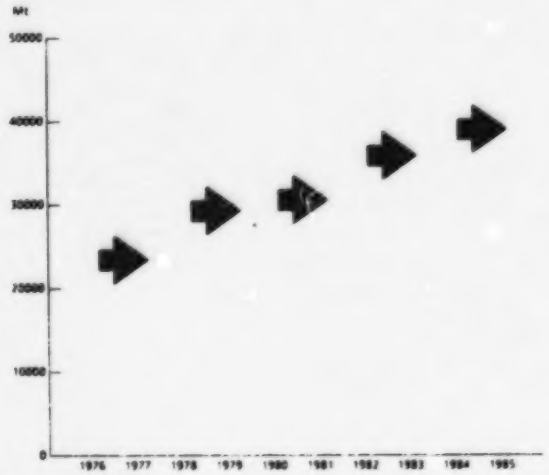
FIGURE 81. U.S PER CAPITA CONSUMPTION OF MOZZARELLA CHEESE, 1976-85

	1976	1977	1978	1979	1980	1981	1982	1983	Estimated 1984	1985
Mozzarella	1,061.4	1,129.5	1,233.8	1,286.2	1,383.5	1,365.3	1,505.9	1,682.8	1,843.6	2,008.3



Source: USDA, Dairy Outlook and Situation, March 1984

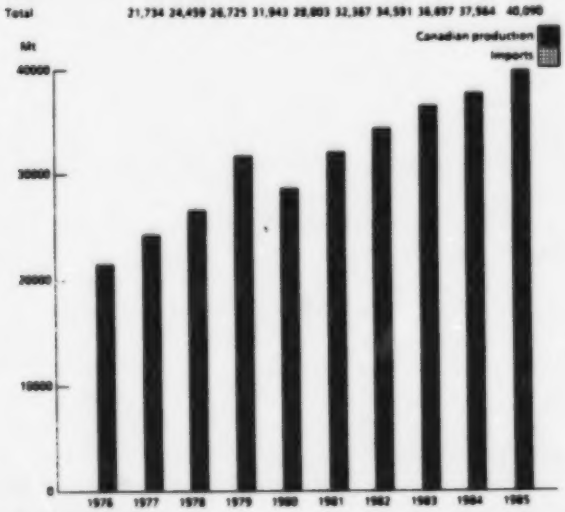
FIGURE 82. CANADIAN SUPPLY OF MOZZARELLA (INCLUDES IMPORTS)



Source: Agriculture Canada

FIGURE 83. CANADIAN SUPPLY OF MOZZARELLA (INCLUDES IMPORTS)

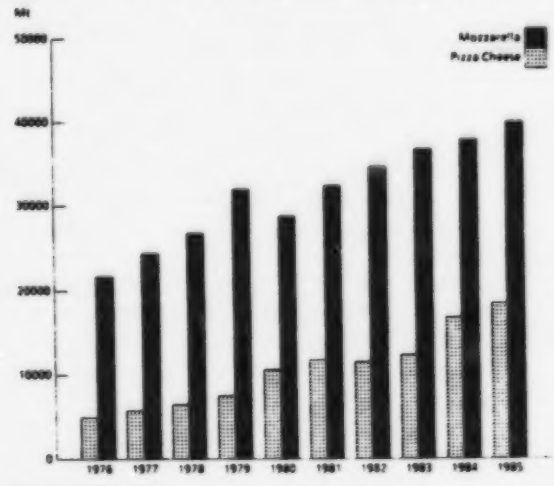
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					('000 kg = t)					
Canadian production	21,424	24,230	26,566	31,751	28,591	32,154	34,372	36,528	37,783	39,907
Imports	310	229	159	192	212	213	219	169	201	183
Total	21,734	24,459	26,725	31,943	28,803	32,367	34,591	36,697	37,984	40,090



Source: Agriculture Canada

FIGURE 84. CANADIAN SUPPLY OF MOZZARELLA (INCLUDES IMPORTS) AND PIZZA CHEESE (PRODUCTION ONLY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					('000 kg = t)					
Mozzarella	21,734	24,459	26,725	31,943	28,803	32,367	34,591	36,797	37,984	40,090
Pizza Cheese	5,022	5,778	6,568	7,642	10,705	11,837	11,547	12,402	16,848	18,474
Total	26,756	30,237	33,293	39,585	39,508	44,154	46,138	49,199	54,812	58,564



Source: Agriculture Canada

FIGURE 55 NUTRIENT CONTENT (PER 100 GRAMS)

	Mozzarella (52%)	Mozzarella (Part Skim) (49%)
Energy		
Kilocalories (kcal)	293	280
Kilojoules (kJ)	1226	1171
Protein (g)	20	27
Fat (g)	22	17
Calcium (mg)	538	731

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

The Canadian production of Mozzarella and pizza cheeses has doubled from 1976 to 1984 from 26,000 to 54,812 metric tonnes. This in itself represents 28% of the Canadian cheese production. This is an amazing accomplishment, and long-term trends indicate that this should continue. It is one of three types of cheeses with faster growth. Even though there is a great number of Canadian manufacturers of Mozzarella and pizza cheeses, the major producers in 1985 seemed to be Saputo, Kraft, Ault Dairies, Northern Alberta Dairy Pool, Grande Cheese Co. Ltd., McCain Refrigerated Foods, Central Alberta Dairy Pool, Superior Cheese Ltd. and Dairyland Foods.

References

Miloni Food Importers Ltd.; Dr. O. Salvadori del Prato, National Cheese Co. Ltd.; Brian B. Kipping, Ault Dairies; Bryan R. Smith, Canada Packers Inc.; and R.G. (Dick) Huggett of Dairyland Foods.

OKA

Background

Oka is a typically Canadian cheese in the Port-du-Salut vein. Port-du-Salut cheese was developed in the early days of the post-Napoleon era by the Trappist monks of the Notre-Dame de Port-du-Salut abbey at Entrammes in Normandy, France. Other Trappist monasteries quickly followed suit with other Port-du-Salut cheeses which became so popular that the monks had to take steps to protect the name. Saint-Paulin cheese, for example, is a commercial copy of Port-du-Salut, made outside the abbeys or out of the monks' control.

Western monasticism dates back 1500 years. St. Benedict provided the inspiration for this form of religious life at the turn of the sixth century. In the 12th century, the movement gained new momentum at Cîteaux when a group of Benedictine monks decided that greater emphasis should be placed on poverty and retreat from the world and formed a new order, the Cistercians. Within a very short time, this new order had spread across Europe. During the anti-clerical movement in France, all religious communities, including monks, were forced to seek refuge abroad.

During the 19th century, several of these communities emigrated to Canada, particularly Quebec. The Oka monastery was founded in 1881 by the Cistercian (Trappist) monks of the Bellefontaine Abbey (near Angers, France). They settled on a piece of property ceded to them by the Sulpicians in the Lac-des-Deux-Montagnes seigneury.

The Sulpicians had been granted this seigneury in 1717. Four years later, they built a mission there for the native people they served. The Iroquois and the Algonquin were the first to settle there, the former concerned mainly with cultural endeavours, the latter with hunting. In the late 18th century, they were joined by members of Nipissing and Outaouais bands. As part of their pastoral duties toward the Indians, the Sulpicians had a mountain pilgrimage site built, later to be known as the Oka Calvary. Indeed, what better environment for native worship than the great outdoors?

The name Oka was first used in 1867, when the post office was opened, to designate the village of the Lac-des-Deux-Montagnes mission. It was the name of one of the oldest Algonquins in the village, Paul Oka, and meant "golden fish."

The Oka Cistercian Abbey

This was what Oka was like when white settlers began to populate the seigneury. Thus, it was in a multicultural setting that the Cistercians decided to pursue their life of prayer and work. They took over the operation of the flour mill and opened a butter factory and several other industries, depending on the needs and the skills of the monks.

Brother Alphonse Juin

In 1893, Brother Alphonse Juin from Entrammes, an expert in the manufacture of Port-du-Salut cheese, arrived in Oka. That same year, brother Alphonse, a nine-time medal winner at the London and Paris exhibitions, with 20 years of experience, won first prize at the provincial exhibition in Montreal. The following year, he took first prize at the Quebec City exhibition and, in 1896, he won the gold medal at Montreal.

The new cheese, termed Oka, did not take long to make a name for itself. Its soaring popularity made it a valuable source of revenue for the abbey during a period of major expansion. The monks also raised horses, had large orchards, produced the famous Oka melon exported to Boston and New York, had vast market gardens, raised well-known pheasants and had a large poultry farm. Their herd of milk cows was well known as was their maple syrup. Therefore one must assume that the monastery had a well-diversified farming operation. It later became an agricultural college.

The Trappist monks ran the cheese factory for over 70 years. By force of circumstance, it gradually became a commercial enterprise, incompatible with the monastic way of life. The decrease in the number of monastic workers, combined with new government requirements, resulted in the sale of the cheese factory to a Canadian company in 1974. In 1978, it was sold to Corby and in the first quarter of 1981 it was acquired by Agropur.

Characteristics

Oka is a surface-ripened, pressed, semi-firm cheese. It has an elastic texture and a fairly strong odor. The color of the crust varies with age, from straw-colored to red. The cheese is smooth and creamy and has a mild, slightly nutty flavor. Because the pastures and soils of the St. Lawrence Valley vary from those in Normandy, the final product is obviously somewhat different as well. Hence, the name Oka and not Port-du-Salut.

Owner of the original Oka-manufacturing technique, Agropur has endeavored to duplicate and improve on this already popular recipe. Over the years, government pasteurization and sanitation standards have undoubtedly combined to give Oka a milder flavor and odor.

It is interesting to note that during the ripening of Oka in cellars, the cheese is laid out on planks of wood with very special characteristics. Made exclusively of South Carolina cyprus, these planks are not only very durable but also are able to absorb excess moisture from the cheese at the beginning of the process and transmit it back to the cheese as needed. This transfer is impossible with other materials such as iron or plastic even though Camembert-type racks provide excellent results. And although other types of wood are able to absorb moisture, they are not mold resistant, a very important factor in the ripening of Oka. Today, Oka is the sole survivor of three authentic, typically Canadian cheeses.

Utilization

Made in small rounds weighing 6 1/4 ounces and 11 3/5 ounces (175 g and 325 g) and in five-pound (2.27 kg) wheels, this yellow-crusted cheese has a whitish-yellow interior when made from winter milk and a darker yellow interior when made from summer milk. Its complex, subtle and delicious flavor is reminiscent of butter and milk, with a hint of nut. A dessert cheese, it is a favorite during wine and cheese tastings.

References

André Picard, OCSO (Order of the Reformed Cistercians of the Strict Observance) at the Oka Cistercian abbey; Monique St-Germain, Agropur; Paul Niedermayr and Jean-Luc Demers.

PARMESAN

Background

Parmesan cheese is the best known of the Italian cheeses and is still considered today the masterpiece of the cheesemaking art.

The origin of Parmesan-type cheese can be traced back in the writings of Homer to the eighth century B.C. and the Etruscans of the Po Valley. With the fall of the Roman empire, the Po Valley deteriorated into a swamp and the production of this cheese almost disappeared. In the 10th century, the monasteries of the Po began to reclaim the fertile valley and to produce modern Parmesan using the old Etruscan recipe. The birth of modern Parmesan is credited to the city of Bibbiano of the province of Parma, from which the cheese derived its name in the 14th century.

After the First World War, many European immigrants entered Canada, bringing with them their cuisine, which uses significant amounts of Parmesan cheese. With this demand, new factories were built and production of this cheese commenced. One of the first factories was the Paron and Gos Cheese Factory established by Mr. Natele Paron and Mr. A. Gos in 1930 in the Hamilton area. Before forming the company, Mr. Paron, who started working in cheese factories as a boy, spent about a year in northern Italy studying Parmesan production. Today, the same factory under Gos and Gris Cheese is still producing naturally aged Parmesan. In the early 1950s, Mr. Colletta, owner and operator of International Cheese in Toronto, started to make Parmesan-style cheese. Mr. Paron, now on his own under the Paron Cheese Company Ltd., commenced large-scale production at about the same time. Today there are many companies producing Parmesan in Canada, with the small producers being best able to produce the best Parmesan.

Characteristics

Parmesan is the name in common use outside Italy, and sometimes in Italy, for a group of very hard cheeses that have been made and known in that country for centuries as Grana. Included in the group are Parmigiano, Reggiano, Lodigiano, Lombardo, Emiliano, Veneto or Venezza and Bagozzo or Bresciano. They differ in size and shape and in the extent to which the milk is skimmed and there are slight differences in the methods of manufacture.

Parmesan originated in an area of northern Italy called the Valley of the Po, located in the heart of the most fertile agricultural district of Italy. This area produced more milk than could be consumed fresh. Because of limited keeping ability, the production of fresh unripened or high-moisture cheese was out of the question. As a consequence, this hard cheese was developed. It requires a long period of time for ripening, in some instances up to three years, depending on the size of the block, the flavor and hardness required, and may be kept an equally long time. Because of the low moisture content and thick rind, it may be easily transported over long distances. The crust of a mature Parmesan is practically bullet-proof.

Parmesan is made from partly skimmed cow's milk using whey starter. The difficulty in the making process is due to the special starter ferment needed and special equipment required (usually made of copper), but mostly to the very high cooking temperature, which is very difficult to control, and is in turn the unique origin of the typical grainy texture of the cheese.

The result is a cheese which has a very light "piquant" flavor, caressing the tongue.

Parmesan is categorized according to maturity:

Vecchio (old)
Stravecchio (very or extra old)
Tipico (four to five years old)
Giovane (young table cheese)

In accordance with traditional practice, the cheese is produced only twice a year in Italy (mid-April and mid-November). Both the milk supplier and the cheesemaker are subjected to the strict control of the Consorzio (controlling corporation) as are the cattle and pastures. The better-known controlling corporations are the Parmigiano Reggiano and Grana Padano. Those corporations regard themselves as producing the true aristocrat among cheeses.

Utilization

Parmesan is known for its hardness and its dryness, which allows it to be stored without refrigeration. When properly aged, the cheese is straw yellow, very hard and dry with a crumbly texture. It has a spicy but not sharp flavor, which is rich and full. Parmesan is best know as a grating cheese and in this form is used to enhance the flavor of many dishes including pasta, tomato sauce and potatoes. When very young, it can be eaten as a table cheese.

A very close relative, Grana, is used in cooking and in soups, because it does not form threads. It differs from Parmesan by having a lighter color and fine-grained texture (Figure 56).

FIGURE 56 NUTRIENT CONTENT (PER 100 GRAMS)

	Grated	Hard
Energy		
Kilocalories (kcal)	456	392
Kilojoules (kJ)	1908	1641
Protein (g)	42	36
Fat (g)	30	26
Calcium (mg)	1376	1184

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

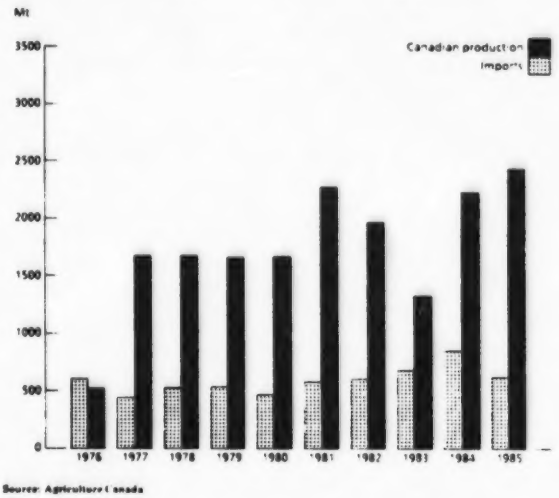
Trend

The trend toward lighter foods and a healthier diet has increased the use of salads as a nutritional source, and the use of Parmesan cheese has increased accordingly. Today Parmesan is no longer the exotic cheese it once was and it has become a widespread staple with many Canadians who use it in a random, widespread variety of dishes.

In 2 years, from 1976 to 1978, the production of Parmesan in Canada increased 300%. There are approximately a dozen manufacturers of Parmesan in Canada to meet the growing demand of Canadians for grated and table cheese. The industrial uses of Parmesan such as in Ravioli, Tortellini and other pasta (inside as filler) suggest tremendous growth. The major manufacturers are Kraft, Harrowsmith, Gos and Gris, and National Cheese (Figures 57 and 58).

FIGURE 57. CANADIAN SUPPLY OF PARMESAN - BLOCKS AND GRATED (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(000 kg = Mt)					
Canadian production	522	1,682	1,678	1,666	1,669	2,272	1,983	1,332	2,082	2,438
Imports	611	439	527	533	469	583	605	687	857	621
Total	1,133	2,121	2,205	2,199	2,138	2,855	2,588	2,019	2,939	3,061



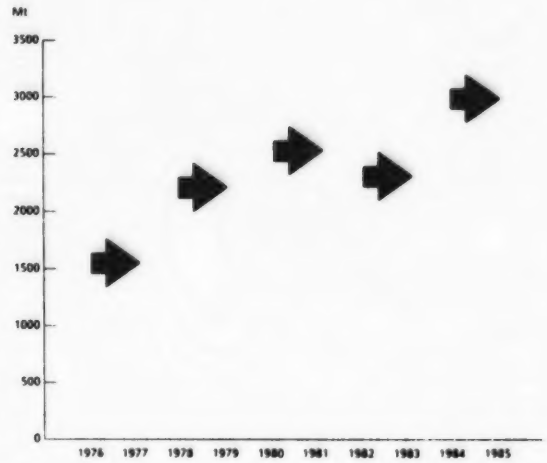
Source: Agriculture Canada

The U.S. per capita consumption shows a very steady increase in the consumption of Parmesan in the United States, and Canadian figures indicate a similar increase (Figure 59).

References

Dr. Ottavio Salvadori del Prato, National Cheese Co. Ltd.; Reta Langenegger, Oak Grove Cheese Factory Ltd., New Hamburg, Ontario; Adolf Zundler, Agriculture Canada; Harrowsmith Cheese Factory Ltd., Ontario; Napoli Importing Ltd., Montreal, Quebec; Louis Paron, Paron Cheese Co. Ltd.; Giovanni Camporese, A&A Foods Ltd., Vancouver; Harvey Tenenbaum, Research Food Ltd., Downsview; Stephen Gris, Gos and Gris Cheese Ltd.

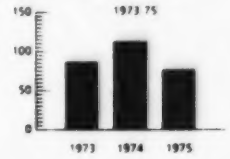
FIGURE 88. CANADIAN SUPPLY OF PARMESAN - BLOCKS AND GRATED (INCLUDES IMPORTS)

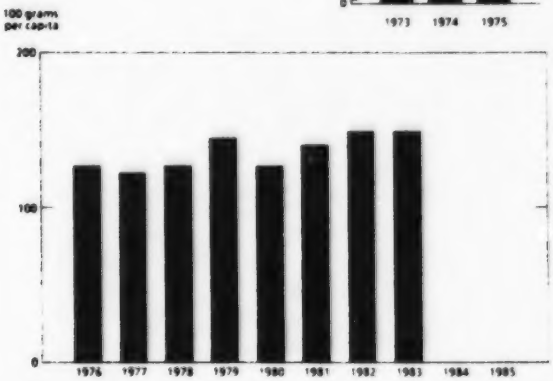


Source: Agriculture Canada

FIGURE 89. U.S PER CAPITA CONSUMPTION OF PARMESAN CHEESE, 1976-84

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	(grams per year)									
Parmesan	127.0	122.5	127.0	145.2	127.0	140.6	149.7	149.7	N/A	N/A





Source: USDA, Dairy Outlook and Situation, March 1984

PROVOLONE

Background

After World War II with the influx of European immigrants, especially Italians, into North America, a demand for Provolone was created.

Provolone originates from southern Italy from a region near Naples, in a landscape poor of road and communication where the milk often became sour before reaching the cheesemaking factory. Its origin can be dated back to the 17th century and the cheese, beginning then, assumed different shapes according to the place of manufacturing; pear-shaped in St-Gervaso, melon-shaped in Sorrento, salami-shaped, etc. One theory as to the origin of the name states that Provolone means "large oval" or "large sphere." The other theory suggests that the name is derived from the word "prova" which means trial, because the curd was tested for stretchability during production.

Characteristics

Provolone is the most typical and prestigious of the pasta filata cheeses. It is made with cow's milk, acidified with starter ferments and is normally, after being shaped, fastened with strands of rope in a net-like harness from which it is hanged to cure and age. To reach its characteristic flavor and aroma, Provolone needs aging for six months or more.

The result is a cheese with a firm, close texture and a strong pungent aroma, accompanied by a very sharp, pungent flavor which grows with aging.

Utilization

Regarded mainly as a table cheese to be sliced, Provolone can be melted and mixes well in many dishes. The original Provolone was well matured and smoked; however, today Provolone is milder, less sharp and more gentle to the tongue. This cheese is popular with Italians, who are more familiar with the cheese (Figure 60). According to the last census (1981), the Italian population of Canada exceeded 600,000. Even though the older generation is accustomed to consuming the traditional types of cheeses, old-style Italian cheese is giving way to a much larger consumption of the same types of cheeses in a mild taste. Provolone is a good example of these changes.

FIGURE 60 NUTRIENT CONTENT (PER 100 GRAMS)

	Provolone
Energy	
Kilocalories (kcal)	352
Kilojoules (kJ)	1471
Protein (g)	26
Fat (g)	27
Calcium (mg)	756

Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

Trend

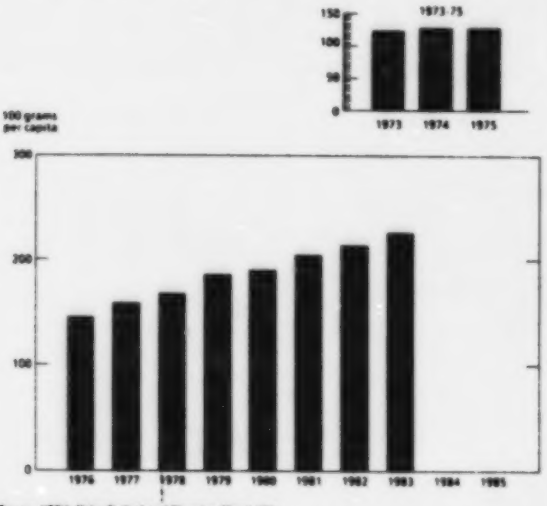
Provolone, like most of the other pasta filata Italian cheeses, gained fashion after the Second World War. Since then, its consumption and production has increased steadily. First manufactured in the United States by Italian cheesemakers, Provolone soon crossed the border into Canada. Saputo Cheese in Montreal is credited as being the first to start industrial production. Sam Lettieri of Toronto, then with Silani and Grande Cheese companies, followed in 1960.

For a number of years now, Saputo Cheese Limited has been producing a rindless Provolone lacking the pungent aroma and flavor attributed to its Italian counterpart.

The U.S. per capita consumption has doubled in 10 years. From 1973 to 1983 (Figure 61), Canadian production has more than doubled from 1972 to 1982. The Canadian production continues to rise (Figures 62 and 63).

FIGURE 61. U.S PER CAPITA CONSUMPTION OF PROVOLONE CHEESE, 1976-85

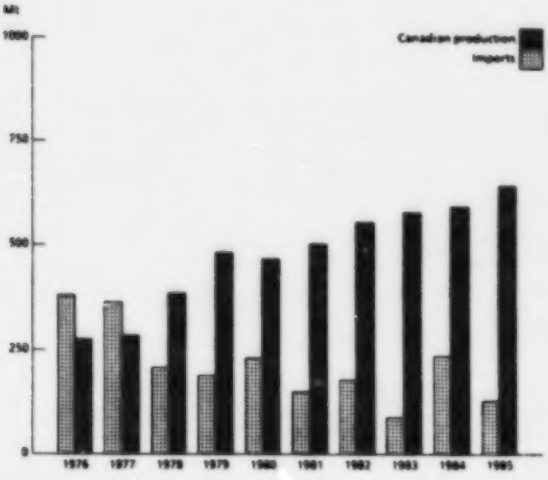
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(grams per year)					
Provolone	145.2	158.8	167.8	186.0	190.5	204.1	213.2	226.8	N/A	N/A



Source: USDA, Dairy Outlook and Situation, March 1984

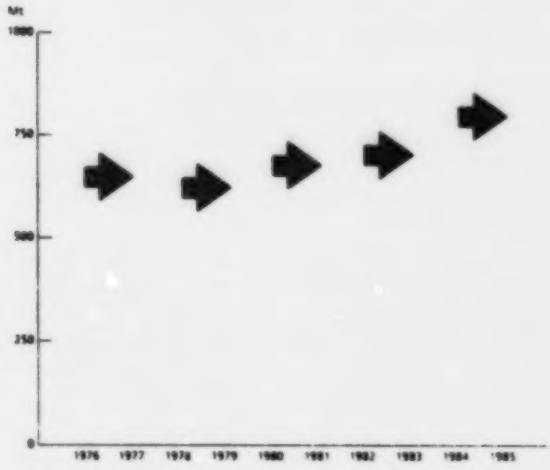
FIGURE 62. CANADIAN SUPPLY OF PROVOLONE (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(1000 kg = Mt)					
Canadian production	275	284	285	481	468	504	536	579	594	645
Imports	380	363	209	189	232	151	180	90	228	130
Total	655	647	594	670	700	655	716	669	822	775



Source: Agriculture Canada

FIGURE 63. CANADIAN SUPPLY OF PROVOLONE (INCLUDES IMPORTS)



Source: Agriculture Canada

References

Information was provided by Dr. Ottavio Salvadori del Prato of the National Cheese Company Ltd. in Concord, Ontario and by Joseph Sutera and Camillo Lisio of Saputo Cheese Ltd.

ROMANO

Background

In Italy, milk from the Sopravissina sheep goes to produce Pecorino cheese, of which the oldest and most famous type is Romano. Legends state that this cheese was made by Romulus, the founder of Rome, the birthplace of Romano.

Almost all the Roman writers of agricultural topics named and described a cheese made in the countryside near Rome from sheep milk. Lucius Quitus Columelle, in his book *De Re Rustica* (Lib. VII tome 8) written in the first century B.C., described the manufacture of Romano cheese in a way that can be easily applied today.

In 1931, a cheesemaker from Italy, Mr. Zito Baccarini, founded the Oak Grove Cheese Factory and started to produce Italian-type cheeses, including a type of Romano. For three generations, the company has continued to produce a good-quality Romano using cow's milk rather than the traditional ewe's milk. Today, there are many Canadian producers of Romano, all using cow's milk with modern technology attempting to duplicate the true Romano flavor.

Utilization

Romano is known as a superb cooking and grating cheese for use in Italian cuisine. Lately, the precooked dinner industry has increased its use of this cheese as an ingredient. Many gourmets use Romano as a table cheese.

Characteristics

Romano is one of the most popular of the very hard Italian cheeses. It was first made from ewe's milk in the grazing area near Rome, but it is now made also from cow's and goat's milk in other regions in southern Italy and in Sardinia. When made from ewe's milk, it is called Pecorino Romano; from cow's milk, Vacchino Romano; and from goat's milk, Caprino Romano. Romano-type cheese made in Sardinia is called Sardo.

The cheeses are round, low cylinders, with flat ends; they vary in size. The interior is somewhat granular and has practically no holes or eyes. Its characteristic pungent flavor and aroma are caused by the typically sheep milk richness in certain fatty acids. The cheese has, after six or more months of aging, a sharp, salty, piquant flavor, strong odor, a slightly grainy texture and a white to pale yellowish color (Figure 64).

FIGURE 64 NUTRIENT CONTENT (PER 100 GRAMS)

	Romano
Energy	
Kilocalories (kcal)	387
Kilojoules (kJ)	1618
Protein (g)	32
Fat (g)	27
Calcium (mg)	1064

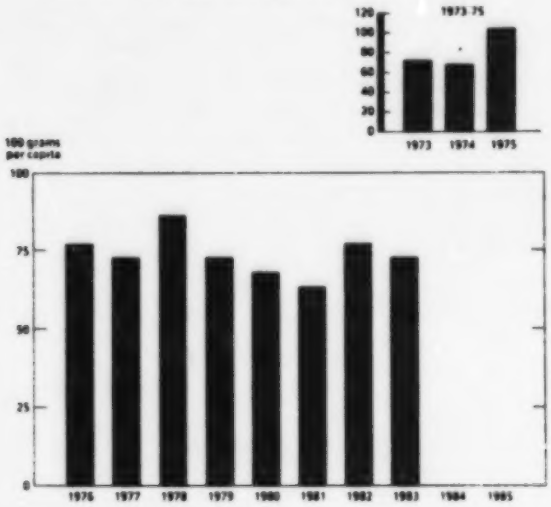
Source: Canadian nutrient file accessed by AGNAP (Agriculture Nutrient Assessment Program)

Trend

Romano is an expensive cheese because of the aging and processing required. This would likely explain the declining popularity of the cheese in recent years. Consumption is expected to rise among higher-income groups but the overall consumption should remain stable or decline slightly in the years ahead. In 1982, Canadian production overtook the imports of Romano. U.S. per capita consumption seems to indicate a small decline in consumption. Canadian production figures from 1976 to now indicate a most stable market. The major manufacturers are Kraft, International, Oak Grove as well as Harrow-smith. Salermo and Malcolm Food Specialties are also producing a Romano-type cheese used mainly as an ingredient in the further processing of cheese and other products (Figures 65, 66 and 67).

FIGURE 65. U.S PER CAPITA CONSUMPTION OF ROMANO CHEESE, 1976-85

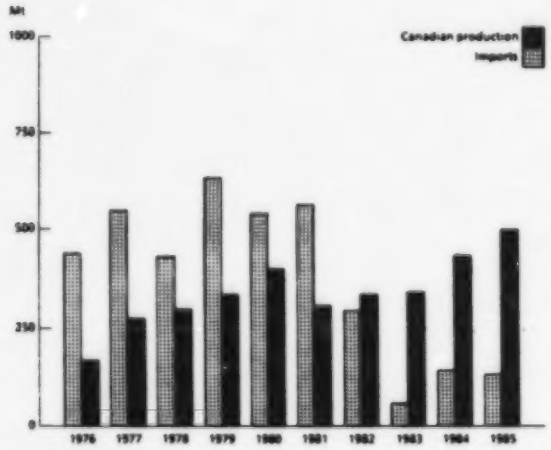
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(grams per year)					
Romano	77.1	72.6	86.2	72.6	68.0	63.5	77.1	72.6	N/A	N/A



Source: USDA, Dairy Outlook and Situation, March 1984

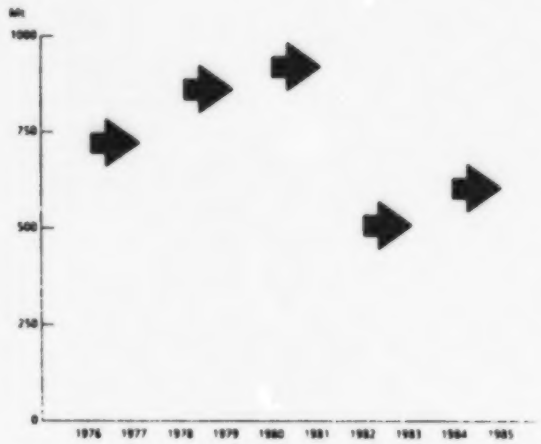
FIGURE 66. CANADIAN SUPPLY OF ROMANO (INCLUDES IMPORTS)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(000 kg - Mt)					
Canadian production	157	276	300	339	403	309	337	343	434	501
Imports	439	551	433	635	543	565	296	60	143	133
Total	593	826	733	974	946	874	633	403	583	634



Source: Agriculture Canada

FIGURE 67. CANADIAN SUPPLY OF ROMANO (INCLUDES IMPORTS)



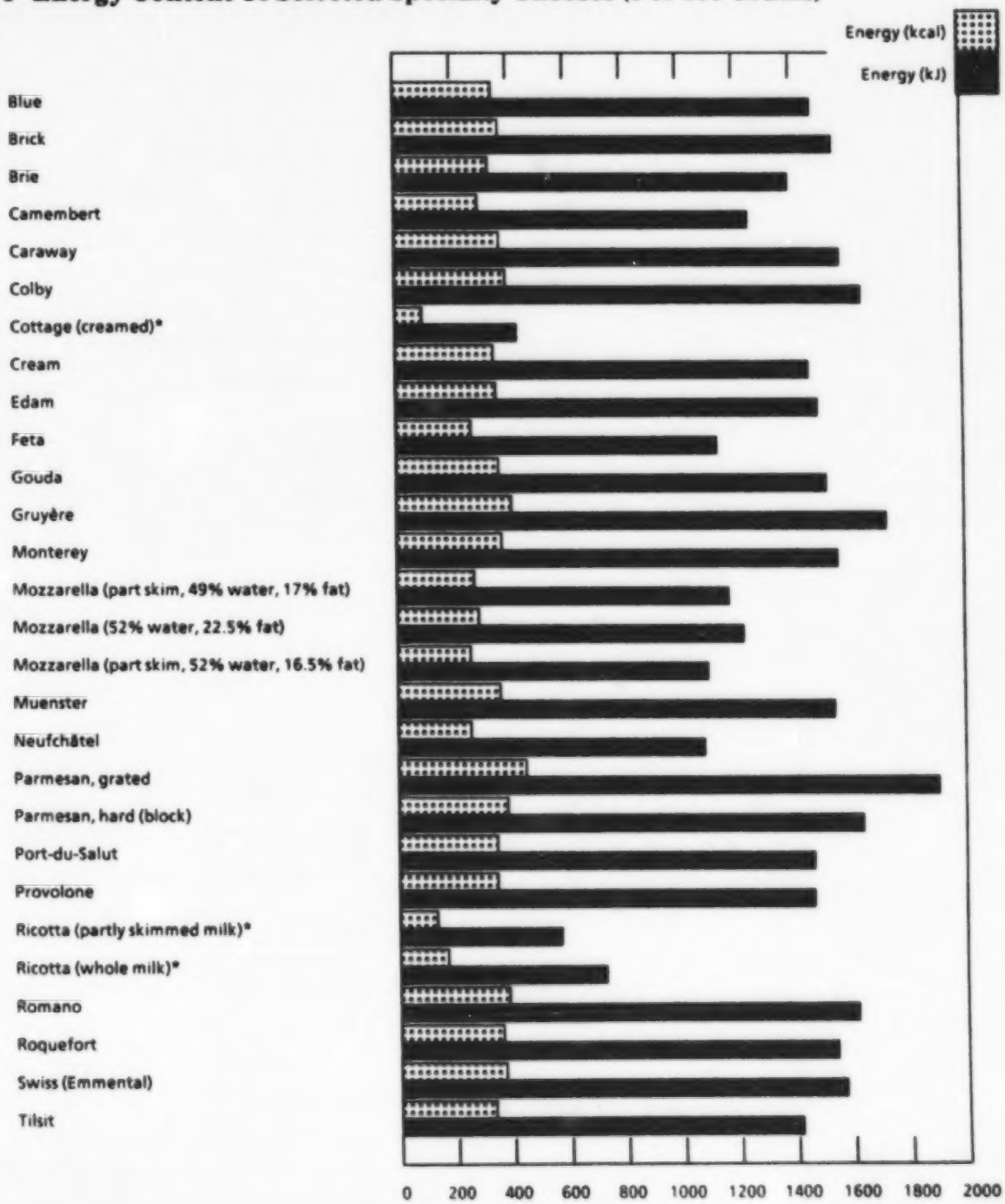
Source: Agriculture Canada

References

Dr. Ottavio del Prato of the National Cheese Company Ltd., Toronto, Ontario; Reta Langenegger of the Oak Grove Cheese Factory Ltd., New Hamburg, Ontario; Adolf Zundler, Agriculture Canada; Bryan R. Smith, Canada Packers Inc.

APPENDIX A NUTRIENT CONTENT

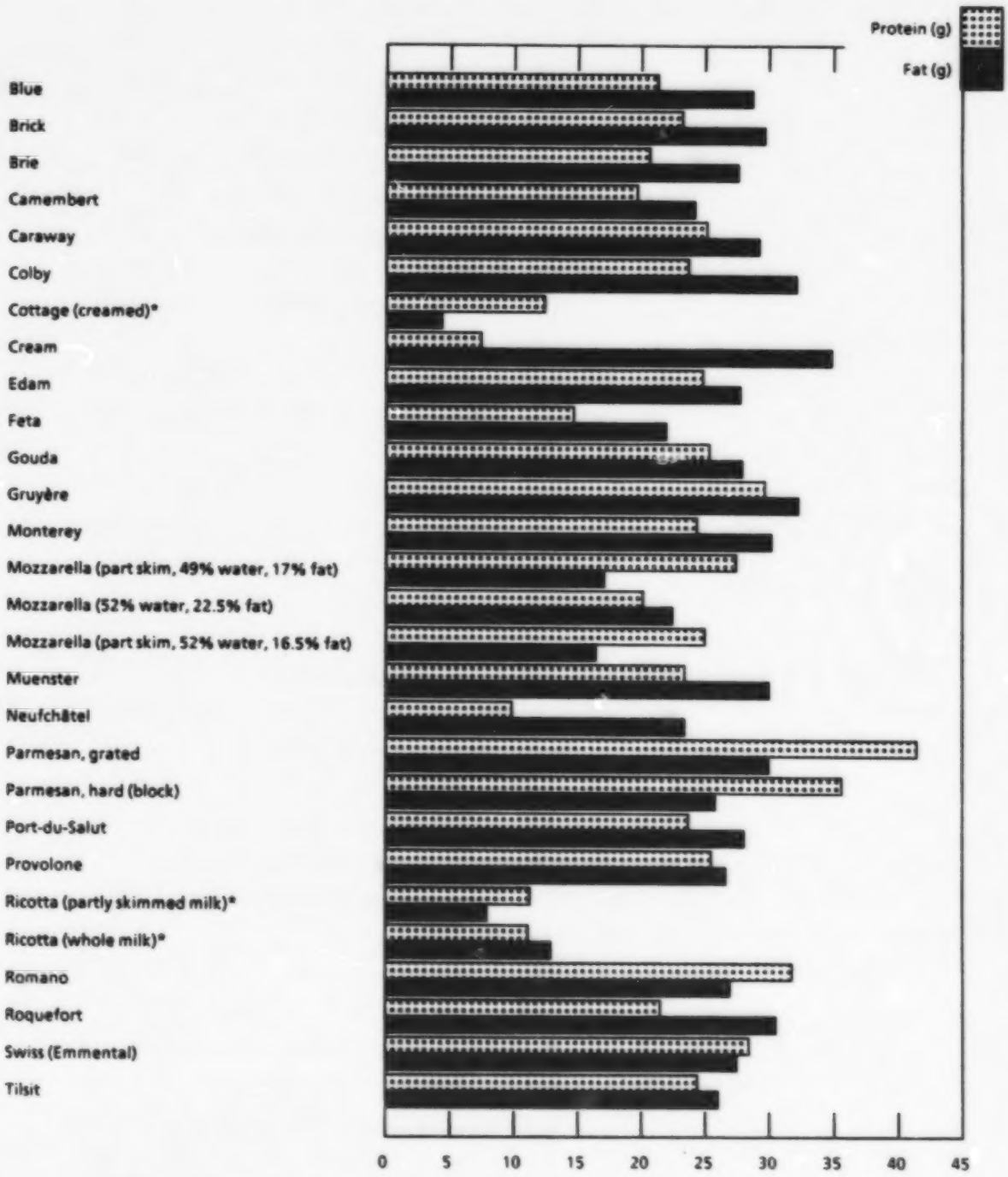
A-1 Energy Content Of Selected Specialty Cheeses (Per 100 Grams)



* Not a specialty cheese

Source: Canadian Nutrient File (1986) accessed by AGNAP (Agriculture Canada Nutrient Assessment Program)

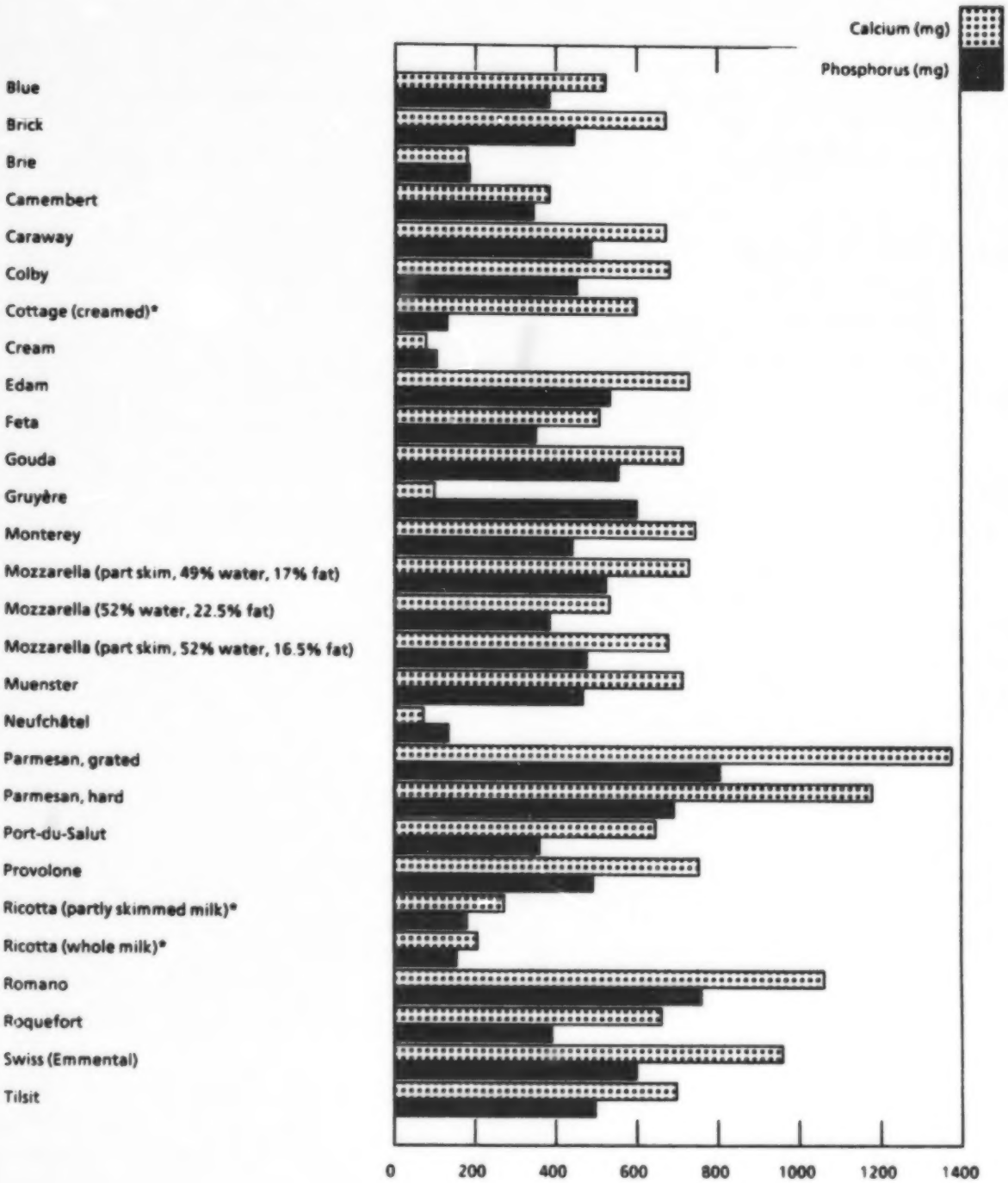
A–2 Protein and Fat Content Of Selected Specialty Cheeses (Per 100 Grams)



* Not a specialty cheese

Source: Canadian Nutrient File (1986) accessed by AGNAP (Agriculture Canada Nutrient Assessment Program)

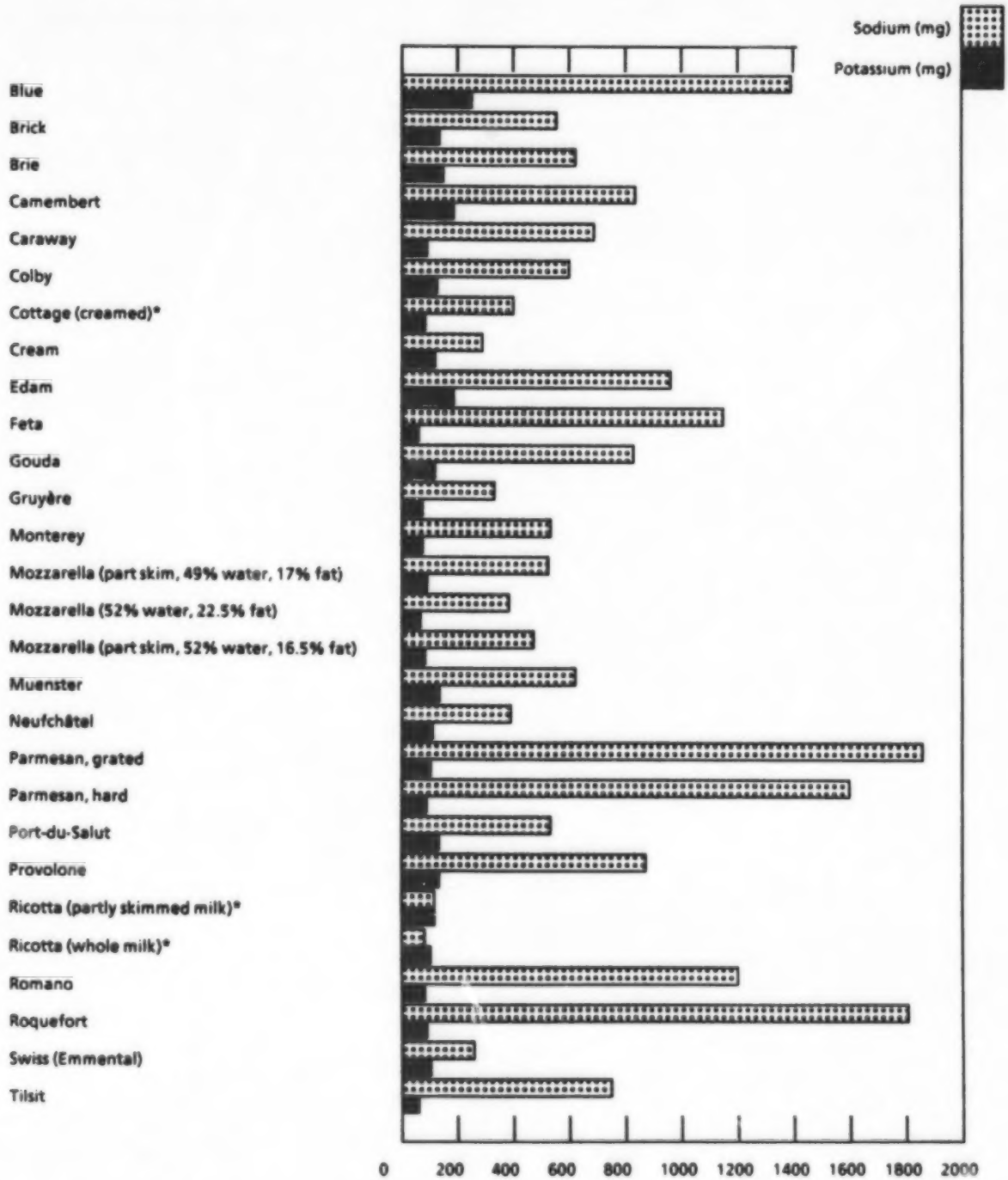
A–3 Calcium (Ca) and Phosphorus (P) Content of Selected Specialty Cheeses (Per 100 Grams)



* Not a specialty cheese

Source: Canadian Nutrient File (1986) accessed by AGNAP (Agriculture Canada Nutrient Assessment Program)

A–4 Sodium (Na) and Potassium (K) Content of Slected Specialty Cheeses (Per 100 Grams)



* Not a specialty cheese

Source: Canadian Nutrient File (1986) accessed by AGNAP (Agriculture Canada Nutrient Assessment Program)

APPENDIX B SELECTED SPECIALTY CHEESE RECIPES

BLUE CHEESE ASPARAGUS ON TOAST

2	cans (341 mL each) chopped asparagus
25 mL	butter or margarine
25 mL	flour
1 mL	pepper
75 mL	skim milk powder
400 mL	liquid from asparagus plus water
75 mL	crumbled Blue cheese
4	slices bread, toasted
4	sliced hard-cooked eggs

Drain asparagus, reserving liquid. Melt butter or margarine. Blend in flour and pepper. Combine skim milk powder and liquid from asparagus plus water; gradually add to flour mixture. Stir and simmer until smooth and thickened. Add cheese and stir until melted. Fold in asparagus and stir until heated through (about 2 min). Pour over toast and garnish with egg. Makes 4 servings (150 mL each).

SPINACH STRAWBERRY SALAD (BRICK)

750 mL	spinach, torn in bite-sized pieces
375 mL	halved strawberries
125 mL	Brick cheese, cut in julienne strips
25 mL	lemon juice
15 mL	oil
1 mL	grated fresh ginger
1 mL	sugar
1 mL	salt

Combine first three ingredients. Blend together lemon juice, oil, ginger, sugar and salt. Pour over salad and toss lightly. Makes 4 servings (250 mL each).

DEEP-FRIED BRIE CHEESE

500 g	Brie cheese
125 mL	flour
2	slightly beaten eggs
250 mL	finely crushed cornflakes
	fat for frying

Cut cheese into small triangles (1 cm x 4 cm x 4 cm). Lightly coat with flour then dip in egg. Thoroughly coat with cornflakes. Refrigerate at least 1 h. Deep-fat fry in 4 cm fat at 190° C until golden (30 sec to 1 min). Drain on paper towels. Serve with apple wedges and grapes, if desired. Makes about 54 appetizers.

CAMEMBERT HERB DIP

1	container Camembert cheese (200 g) at room temperature
75 mL	sour cream
25 mL	chopped fresh parsley
25 mL	chopped green onion or chives

Slice off top of cheese and discard. Spoon out cheese leaving remaining rind intact. In food processor or blender combine cheese with remaining ingredients. Blend until smooth. Spoon into rind and garnish with chopped parsley, if desired. Makes about 250 mL.

COLBY APPLE SALAD

75 mL	sour cream
15 mL	honey
5 mL	lemon juice
375 mL	diced red apples
125 mL	diced Colby cheese
125 mL	sliced celery
4	lettuce leaves
50 mL	slivered almonds, toasted

Combine first three ingredints. Refrigerate at least 1 h. Just before serving; combine apples, cheese and celery. Put into a bowl lined with lettuce. Pour dressing over and toss gently. Garnish with almonds. Makes 6 servings (250 mL each).

BLUEBOTTOM CHEESECAKE (CREAM)

1	package (300 g) frozen blueberries, thawed
125 mL	water
75 mL	sugar
50 mL	corn starch
10 mL	lemon juice
375 mL	graham wafer crumbs
75 mL	butter or margarine, melted
125 mL	whipping cream
1	package (250g) Cream cheese, softened
125 mL	sugar
5 mL	vanilla

Combine blueberries, water, sugar, corn starch and lemon juice. Bring to boil, stirring constantly. Simmer until thickened and clear. Cool. Combine crumbs and butter or margarine, reserve 100 mL for garnish. Press remaining crumb mixture into bottom of 2 L baking pan (20 cm square). Refrigerate. Whip cream. Beat cream cheese with 125 mL sugar and vanilla, until fluffy. Fold in whipped cream. To asemble cheesecake, spread blueberry mixture over crumbs. Top with cream cheese mixture. Sprinkle with remaining crumb mixture. Refrigerate overnight. Makes 1 cheesecake.

EDAM ONION PIE

1 L	sliced onion
50 mL	butter or margarine
25 mL	flour
500 mL	grated Edam cheese (200 g)
250 mL	milk
4	beaten eggs
5 mL	seasoned salt
1 mL	pepper
2	unbaked 1 L pie shells (23 cm each)

Sauté onion in butter or margarine until transparent. Stir in flour. Remove from heat. Combine remaining ingredients except pie shell. Add to sautéed onions. Pour into pie shells. Bake 15 min at 200° C; reduce heat to 190°C and bake 20 min more or until knife inserted into center comes out clean. May be stored (baked) up to 1 week in freezer at -18°C. Bake frozen, covering edges, 1 h at 160°C. Makes 2 pies. (8 servings).

FATHER BOLDUC'S RACLETTE (EMMENTAL)

500 mL	cubed cooked potatoes
100 g	Gruyère or Emmental cheese, thinly sliced
125 mL	sliced green onion
5	slices cooked bacon, crumbled

Place potatoes into a shallow baking pan. Place cheese slices over the potatoes. Bake at 200°C until cheese melts and potatoes are hot (about 6 min). Sprinkle with onion and bacon. Makes 4 servings (125 mL each).

FETA FETTUCINI

1	package (300 g) frozen shopped spinach
50 mL	grated onion
15 mL	butter or margarine
1	slightly beaten egg
125 mL	milk
250 mL	(125 g) crumbled Feta cheese
250 mL	(250 g) Cottage cheese
15 mL	chopped fresh parsley OR 5 mL dried
3 mL	nutmeg
0.50 mL	freshly ground pepper
500 mL	cooked broad egg noodles (100 g uncooked)

Thaw and drain spinach. Sauté onion in butter or margarine until onion is transparent. Add spinach and cook until dry (about 2 min). Remove from heat and cool slightly. Add egg, milk, cheeses, parsley and seasonings; mix well. Stir and simmer until thickened, but do not boil. combine with hot egg noodles and serve. Makes 4 servings (250 mL each).

ASPARAGUS PASTA PIE (GOUDA)

400 g	chopped asparagus
25 mL	butter
500 mL	(250 g) grated Gouda cheese
500 mL	cooked spaghetti (100 g uncooked)
175 mL	milk
4	beaten eggs
25 mL	chopped green onion
5 mL	Worcestershire sauce
5 mL	salt
0.50 mL	pepper
25 mL	chopped parsley

Panfry asparagus in butter until tender (about 10 min). Combine remaining ingredients except parsley, then add cooked asparagus. Turn into 1.5 L greased pie pan (25 cm). Sprinkle with parsley. Cover and bake at 180° C for 20 min; uncover and bake until knife inserted in center comes out clean (about 25 min more). Let stand 10 min.

FATHER BOLDUC'S CHEESE AND FRUIT (GRUYÈRE)

250 mL	diced Gruyère cheese (150 g)
250 mL	sliced celery
250 mL	coarsely chopped apple
250 mL	cantaloupe balls
50 mL	plain yogurt
50 mL	mayonnaise or salad dressing
10 mL	lime juice

Combine first four ingredients. Blend together yogurt, mayonnaise or salad dressing and lime juice. Pour over fruit mixture and combine well. Refrigerate 1 h before serving. Serve in hollowed out cantaloupe shell, if desired. Makes 8 servings (125 mL each).

HAVARTI BAKED IN PASTRY

1	package (235 g) crescent roll dough
5 mL	basil leaves
5 mL	dill weed
2 mL	tarragon leaves, crushed
100 g	Havarti cheese

Open dough. Combine herbs and sprinkle over dough. Separate dough into triangles. Cut cheese into 8 squares; roll each into a dough triangle and tuck ends under securely. May be refrigerated overnight before baking. Bake at 190° C until golden (about 13 min). Serve hot. Makes 8 appetizers.

MEATLESS LASAGNA (MOZZARELLA)

SAUCE

250 mL	chopped onion
125 mL	diced celery
125 mL	diced green pepper
2	garlic cloves, crushed
25 mL	oil
1	can (796 mL) whole tomatoes
1	can (156 mL) tomato paste
15 mL	chopped fresh parsley or 5 mL dried
10 mL	sugar
2 mL	oregano
1 mL	crushed chili peppers
5 mL	salt
0.50 mL	pepper

LASAGNA

500 g	chopped tofu
2 mL	salt
0.50 mL	pepper
1	beaten egg
500 g	cooked lasagna noodles (250 g uncooked)
500 g	thinly sliced Mozzarella cheese
125 mL	grated Parmesan cheese
15 mL	chopped fesh parsley or 5 mL dried

Sauce: Sauté first four ingredients in oil until onion is transparent. Add remaining ingredients. Cover and simmer until thickened (about 1 h), stirring occasionally.

Lasagna: Place tofu between double layers of towelling. Allow to stand 30 min to make tofu firm. Combine tofu, salt, pepper and egg. Spread a thin layer of sauce on bottom of greased 3.5 L (33 cm x 21 cm x 5 cm) baking dish. Alternate layers of half the noodles, tofu mixture, Mozzarella cheese and sauce. Repeat, ending with sauce. Sprinkle with Parmesan cheese. Bake at 180° C until heated through (30 to 35 min). Sprinkle with parsley and let stand 15 min before serving. Makes 8 servings.

FRUIT AND OKA CAKE

4	eggs, separated
175 mL	icing sugar
375 mL	finely grated Oka cheese (150 g)
200 mL	milk
50 mL	white wine
2 mL	almond extract
300 mL	all-purpose flour
10 mL	baking powder
250 mL	mixed glace fruit (225 g)

Beat egg yolks and icing sugar until light and fluffy. Add cheese, milk, wine and almond extract. Blend well. Sift flour and baking powder together; add fruit. Fold flour mixture into egg mixture. Beat egg whites until stiff peaks form. Fold into batter. Pour into a greased and floured 3 L angel food pan (23 x 10 cm). Bake 1 h at 180° C. Allow to cool in pan. Sprinkle with icing sugar and decorate with candied fruit, if desired. Makes 1 cake.

GOURMET OKA FONDUE

50 mL	butter
50 mL	flour
500 mL	milk
10 mL	Worcestershire sauce
5 mL	salt
1 L	Oka cheese, grated (400 g)

Melt butter. Blend in flour, stir and cook 4 min. Gradually add milk, Worcestershire sauce and salt, stirring constantly. Add cheese, stir until melted. Serve with crusty bread cubes or fruit wedges if desired. Makes 4 servings (250 mL).

FIDDLEHEADS PARMESAN

700 g fiddleheads
2 mL salt
500 mL boiling water
50 mL butter
50 mL flour
375 mL chicken broth
2 mL lemon juice
40 mL Parmesan cheese

Add fiddleheads and salt to boiling water. Cover and bring to boil. Reduce heat and simmer 8 min. Drain. Melt butter. Add flour and cook 1 min. Gradually add chicken broth and lemon juice; stir and cook until thickened. Add 25 mL Parmesan cheese. In a greased 1 L baking dish, layer fiddleheads and sauce, ending with sauce. Sprinkle remaining cheese on top. Boil until golden. Makes 6 servings (125 mL each).

PROVOLONE HERO SANDWICH

1 crusty French loaf (about 55 cm long, 8 cm wide)
40 mL butter
40 mL mayonnaise or salad dressing
10 slices summer salami (about 220 g)
50 mL thinly sliced onion
1 pickled hot banana pepper, sliced crosswise
500 mL sliced Provolone cheese (300 g)
1 tomato, sliced
250 mL alfalfa sprouts

Slice bread in half lengthwise. Spread each half with butter, then mayonnaise or salad dressing. On the bottom half of bread, arrange 5 slices salami. Top with onion and pepper slices; then layer cheese, tomato, alfalfa sprouts, remaining salami and cover with top half of bread. Wrap and refrigerate overnight, if desired. Cut in 4 diagonal pieces. Garnish with dill pickle, if desired. Makes 4 servings.

TURKEY ROMANGIANO (ROMANO)

500 g turkey breast, skinned boned (750 g bone-in) in 1 cm thick slices
2 slightly beaten eggs
175 mL dry bread crumbs
50 mL oil
2 cans (213 mL each) tomato sauce
2 cloves garlic, crushed
2 mL basil leaves
125 mL grated Romano cheese

Pound turkey to 5 mm thickness. Cut into serving size pieces. Dip turkey into egg, then into crumbs. Brown in oil 1 min each side. Place into a large roasting pan. Combine tomato sauce, garlic and basil. Pour over turkey. Sprinkle with cheese. Cover and bake 25 min at 180°C. Garnish with parsley and serve with spaghetti if desired. Makes 4 servings.

REUBEN SPUDS (SWISS)

1	baked potato	50 mL	sauerkraut
50 mL	corned beef, cut in julienne strips	50 mL	shredded Swiss cheese

For each serving cut baked potato almost in half, lengthwise. Fluff potato with fork. Top with corned beef, sauerkraut and cheese. Bake at 180° C until cheese melts (about 10 min). Service with MUSTARD SAUCE if desired. Makes 1 serving.

MUSTARD SAUCE

75 mL	mayonnaise or salad dressing	10 mL	strong prepared mustard
75 mL	sour cream	0.5 mL	white pepper
15 mL	chopped fresh parley or 5 mL dried		

Combine all ingredients. Cover and refrigerate. Makes about 150 mL.